### **Analytical Data Package Prepared For**

# **Pacific Northwest National Lab**

Radiochemical Analysis By

# **STL Richland STLRL**

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Data Package Contains \_\_\_\_\_ Pages

Report Nbr: 30860

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	ВАТСН
W04799	A06-010	B1DYR6	J5J200181-1	HM6AF1AA	9HM6AF10	5299563
		B1DYR6	J5J200181-1	HM6AF1AC	9HM6AF10	5299573
		B1DYR6	J5J200181-1	HM6AF1AD	9HM6AF10	5299576
		B1DYR6	J5J200181-1	HM6AF1AE	9HM6AF10	5299629
		B1DYR6	J5J200181-1	HM6AF1AF	9HM6AF10	5299559
		B1DYR6	J5J200181-1	HM6AF2AG	9HM6AF20	5299557
		B1DYR7	J5J200181-2	HM6AQ1AA	9HM6AQ10	5299563
		B1DYR7	J5J200181-2	HM6AQ1AC	9HM6AQ10	5299573
		B1DYR7	J5J200181-2	HM6AQ1AD	9HM6AQ10	5299576
		B1DYR7	J5J200181-2	HM6AQ1AE	9HM6AQ10	5299629
		B1DYR7	J5J200181-2	HM6AQ1AF	9HM6AQ10	5299559
		B1DYR7	J5J200181-2	HM6AQ2AG	9HM6AQ20	5299557
		B1DYT6	J5J200181-3	HM6AX1AA	9HM6AX10	5299563
		B1DYT6	J5J200181-3	HM6AX1AC	9HM6AX10	5299573
		B1DYT6	J5J200181-3	HM6AX1AD	9HM6AX10	5299576

Comments:

Report Nbr: 30860

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W04799	A06-010	B1DYT6	J5J200181-3	HM6AX1AE	9HM6AX10	5299629
		B1DYT6	J5J200181-3	HM6AX1AF	9HM6AX10	5299559
		B1DYT6	J5J200181-3	HM6AX2AG	9HM6AX20	5299557
		B1DYV1	J5J200184-1	HM6CN1AA	9HM6CN10	5299563
		B1DYV1	J5J200184-1	HM6CN1AC	9HM6CN10	5299573
		B1DYV1	J5J200184-1	HM6CN1AD	9HM6CN10	5299576
		B1DYV1	J5J200184-1	HM6CN1AE	9HM6CN10	5299629
		B1DYV1	J5J200184-1	HM6CN1AF	9HM6CN10	5299559
		B1DYV1	J5J200184-1	HM6CN2AG	9HM6CN20	5299557
		B1DYW0	J5J200184-2	HM6CR1AA	9HM6CR10	5299563
		B1DYW0	J5J200184-2	HM6CR1AC	9HM6CR10	5299573
		B1DYW0	J5J200184-2	HM6CR1AD	9HM6CR10	5299576
		B1DYW0	J5J200184-2	HM6CR1AE	9HM6CR10	5299629
		B1DYW0	J5J200184-2	HM6CR1AF	9HM6CR10	5299559
		B1DYW0	J5J200184-2	HM6CR2AG	9HM6CR20	5299557
		B1DYV3	J5J200184-3	HM6CV1AA	9HM6CV10	5299563
		B1DYV3	J5J200184-3	HM6CV1AC	9HM6CV10	5299573
	•	B1DYV3	J5J200184-3	HM6CV1AD	9HM6CV10	5299576
		B1DYV3	J5J200184-3	HM6CV1AE	9HM6CV10	5299629
		B1DYV3	J5J200184-3	HM6CV1AF	9HM6CV10	5299559
		B1DYV3	J5J200184-3	HM6CV2AG	9HM6CV20	5299557
	S06-010	B1F1F2	J5J210189-1	HM93M1AA	9HM93M10	5299563
		B1F1F5	J5J210189-2	HM9311AA	9HM93110	5299563
		B1F1F8	J5J210189-3	HM9351AA	9HM93510	5299563
		B1F1D6	J5J210189-4	HM9361AA	9HM93610	5299563
		B1F1D6	J5J210189-4	HM9361AC	9HM93610	5299632

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 SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W04799	S06-010	B1F1D6	J5J210189-4	HM9361AD	9HM93610	5299573
		B1F1D6	J5J210189-4	HM9361AE	9HM93610	5299576
		B1F1D6	J5J210189-4	HM9361AF	9HM93610	5299629
	A06-010	B1DYT4	J5J220210-1	HNE5H1AA	9HNE5H10	5299563
		B1DYT4	J5J220210-1	HNE5H1AC	9HNE5H10	5299573
		B1DYT4	J5J220210-1	HNE5H1AD	9HNE5H10	5299576
		B1DYT4	J5J220210-1	HNE5H1AE	9HNE5H10	5299629
		B1DYT4	J5J220210-1	HNE5H1AF	9HNE5H10	5299559
		B1DYT4	J5J220210-1	HNE5H2AG	9HNE5H20	5299557
	S06-010	B1F1B5	J5J220217-1	HNE531AA	9HNE5310	5299559
		B1F193	J5J220217-2	HNE571AA	9HNE5710	5299563
		B1F193	J5J220217-2	HNE571AC	9HNE5710	5299576
		B1F193	J5J220217-2	HNE571AD	9HNE5710	5299630
	106-001	B1F392	J5J220219-1	HNE6F1AA	9HNE6F10	5299563
		B1F392	J5J220219-1	HNE6F1AC	9HNE6F10	5299573
		B1F392	J5J220219-1	HNE6F1AD	9HNE6F10	5299576
		B1F392	J5J220219-1	HNE6F1AE	9HNE6F10	5299583
	A06-010	B1DYT7	J5J250137-1	HNH1P1AA	9HNH1P10	5299563
		B1DYT7	J5J250137-1	HNH1P1AC	9HNH1P10	5299573
		B1DYT7	J5J250137-1	HNH1P1AD	9HNH1P10	5299576
		B1DYT7	J5J250137-1	HNH1P1AE	9HNH1P10	5299629
		B1DYT7	J5J250137-1	HNH1P1AF	9HNH1P10	5299559
		B1DYT7	J5J250137-1	HNH1P2AG	9HNH1P20	5299557
		B1DYT8	J5J250137-2	HNH1V1AA	9HNH1V10	5299563
		B1DYT8	J5J250137-2	HNH1V1AC	9HNH1V10	5299573
		B1DYT8	J5J250137-2	HNH1V1AD	9HNH1V10	5299576

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SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
			· · · · · · · · · · · · · · · · · · ·			
W04799	A06-010	B1DYT8	J5J250137-2	HNH1V1AE	9HNH1V10	5299629
		B1DYT8	J5J250137-2	HNH1V1AF	9HNH1V10	5299559
		B1DYT8	J5J250137-2	HNH1V2AG	9HNH1V20	5299557
		B1DYT0	J5J250137-3	HNH1W1AA	9HNH1W10	5299563
		B1DYT0	J5J250137-3	HNH1W1AC	9HNH1W10	5299573
		B1DYT0	J5J250137-3	HNH1W1AD	9HNH1W10	5299576
		B1DYT0	J5J250137-3	HNH1W1AE	9HNH1W10	5299629
		B1DYT0	J5J250137-3	HNH1W1AF	9HNH1W10	5299559
		B1DYT0	J5J250137-3	HNH1W2AG	9HNH1W20	5299557
	106-001	B1F356	J5J250143-1	HNH161AA	9HNH1610	5299563
		B1F356	J5J250143-1	HNH161AC	9HNH1610	5299573
		B1F356	J5J250143-1	HNH161AD	9HNH1610	5299576
		B1F356	J5J250143-1	HNH161AE	9HNH1610	5299583
		B1F356	J5J250143-1	HNH161AF	9HNH1610	5299626
	S06-010	B1F1C5	J5J250145-1	HNH181AA	9HNH1810	5299563
		B1F1C5	J5J250145-1	HNH181AC	9HNH1810	5334372
		B1F1C5	J5J250145-1	HNH181AD	9HNH1810	5299573
		B1F1C5	J5J250145-1	HNH181AE	9HNH1810	5299576
		<b>B1F1C4</b>	J5J250145-2	HNH2C1AA	9HNH2C10	5299563
		<b>B1F1C4</b>	J5J250145-2	HNH2C1AC	9HNH2C10	5334372
		B1F1C4	J5J250145-2	HNH2C1AD	9HNH2C10	5299573
		B1F1C4	J5J250145-2	HNH2C1AE	9HNH2C10	5299576

## **Certificate of Analysis**

Pacific Northwest National Laboratories Sigma V Building Richland, WA 99352

December 21, 2005

Attention: Dot Stewart

SAF Number : A06-010, I06-001, S06-010

Date SDG Closed : October 25, 2005 Number of Samples : Twenty (20)

Sample Type : Water
SDG Number : W04799

Data Deliverable : 45-Day / Summary

### **CASE NARRATIVE**

#### I. Introduction

Between October 19, 2005 and October 24, 2005, twenty water samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Pacific Northwest National Laboratories (PGW) specific IDs:

STLR ID#	<b>MATRIX</b>	DATE OF RECEIPT
HM6AF	WATER	10/19/05
HM6AQ	WATER	10/19/05
HM6AX	WATER	10/19/05
HM6CN	WATER	10/19/05
HM6CR	WATER	10/19/05
HM6CV	WATER	10/19/05
HM935	WATER	10/20/05
HM93M	WATER	10/20/05
HM931	WATER	10/20/05
HM936	WATER	10/20/05
HNE5H	WATER	10/21/05
HNE53	WATER	10/21/05
HNE57	WATER	10/21/05
	HM6AF HM6AQ HM6AX HM6CN HM6CR HM6CV HM935 HM93H HM936 HM936 HNE5H HNE53	HM6AF WATER HM6AQ WATER HM6AX WATER HM6CN WATER HM6CR WATER HM6CV WATER HM935 WATER HM931 WATER HM931 WATER HM936 WATER HM936 WATER HM936 WATER HNE5H WATER

B1F392	HNE6F	WATER	10/21/05	
B1DYT7	HNH1P	WATER	10/24/05	
B1DYT8	HNH1V	WATER	10/24/05	
B1DYT0	HNH1W	WATER	10/24/05	
B1F356	HNH16	WATER	10/24/05	
B1F1C5	HNH18	WATER	10/24/05	
B1F1C4	HNH2C	WATER	10/24/05	

#### II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

#### III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

#### **Gas Proportional Counting**

Gross Alpha by method RICH-RC-5014 Gross Beta by method RICH-RC-5014 Strontium-90 by method RICH-RC-5006

### **Gamma Spectroscopy**

Gamma Spec by method RICH-RC-5017 Iodine-129 (LL) by method RICH-RC-5025

### **Liquid Scintillation Counting**

Carbon-14 by method RICH-RC-5022

Technetium-99 by TEVA method RICH-RC-5065

Tritium by method RICH-RC-5007

#### **Laser Induced Phosphorimetry**

Total Uranium by method RICH-RC-5058

#### **Chemical Analysis**

Total Coliform by method 9223

### IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

#### V. Comments

#### **Gas Proportional Counting**

#### Gross Alpha by method RICH-RC-5014:

The LCS, batch blank, samples and sample duplicate (B1F356) results are within contractual requirements.

#### Gross Beta by method RICH-RC-5014:

The achieved MDA for sample B1DYR6 is greater than the CRDL due to sample matrix effects; reduced volume was analyzed based on an elevated screen results. The detected activity exceeds the achieved MDA. The LCS, batch blank, samples and sample duplicate (B1F1C4) results are within contractual requirements.

#### Strontium-90 by method RICH-RC-5006

The LCS, batch blank, samples and sample duplicate (B1F356) results are within contractual requirements.

#### Gamma Spectroscopy

#### Gamma Spec by method RICH-RC-5017:

The LCS, batch blank, samples and sample duplicate (B1F392) results are within contractual requirements.

### <u>Iodine-129 (LL)</u> by method RICH-RC-5025

The LCS, batch blank, samples and sample duplicate (B1F1D6) results are within contractual requirements.

#### **Liquid Scintillation Counting**

#### Carbon-14 by method RICH-RC-5022

The LCS, batch blank, samples and sample duplicate (B1F193) results are within contractual requirements.

#### Technetium-99 by TEVA method RICH-RC-5065:

The LCS, batch blank, samples, sample duplicate (B1DYV1), and sample matrix spike (B1DYW0) results are within contractual requirements.

#### Tritium by method RICH-RC-5007:

The LCS, batch blank, samples and sample duplicate (B1DYT7) results are within contractual requirements.

#### **Total Uranium**

#### Total Uranium by method RICH-RC-5058:

The batch was recounted due to an instrument calibration issue. The LCS, batch blank, samples, sample duplicate (B1DYT7), and sample matrix spike (B1DYT4) results are within contractual requirements.

# Pacific Northwest National Laboratories December 21, 2005

### **Chemical Analysis**

Total Coliform by method 9223

To achieve the holding time for coliforms, the samples were analyzed in two analytical batches as the samples were received.

Batch 5299632: The LCS, batch blank, samples and sample duplicate (B1F1D6) results are within contractual requirements.

Batch 5334372: The LCS, batch blank, samples and sample duplicate (B1F1C4) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:

Hans Carman

Project Manager

### **Drinking Water Method Cross References**

	DRINKING WATER	R ASTM METHOD CROSS REFERENCES
Referenced Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-24		
The Gross Beta LCS is prepared with Sr/Y-90	(unless otherwise s	pecified in the case narrative)

### **Uncertainty Estimation**

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants \* f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties  $(u_i)$  are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty  $(u_c)$  multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/vn), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

		Report Definitions
	Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
	Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
	Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
	COC No	Chain of Custody Number assigned by the Client or STL Richland.
	Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
	Total Uncert (#s) u <sub>c</sub> Combined Uncertainty.	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, $u_c$ the combined uncertainty. The uncertainty is absolute and in the same units as the result.
	(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
	CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
	Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
	Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
	MDC MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
	Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
	Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
	Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
	Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
	Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the <b>Work Order</b> Number.
	RER	The equation Replicate Error Ratio = $(S-D)/[sqrt(TPUs^2 + TPUd^2)]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
	SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
	Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
	Work Order	The LIMS software assign test specific identifier.
	Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.
- 1		

12/22/2005 7:57:07 AM	STL Richland Report	Lab Code: STLRL
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FormNbr	: R	FormatType: F	EAD Vers	ion: 05	Rpt N	<b>br:</b> 30860		File Name: h	:\Reportdb\e	edd\FeadIV\Rad\W047	99.Edd, h:\Rep	ortdb\ed	dd\FeadIV\Rad\3086	60.Edd
Lab Sample Id: 9HM6AF10	Client Id: B1DYR6	Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> b	or Sdg Nbr: W04799	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:			llection Date: 2005 10:17	
Batch	Analyte	CAS#	Result		CntU 2S	TotU 2S	Qua		ΓrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
5299563	H-3	10028-17-8	2.12E+02	pCi/L		1.7E+02	U	3.54E+02		906.0_H3_LSC	5.00E-03	L	12/10/200 16:	
5299573	ALPHA	12587-46-1	1.95E+00	pCi/L	1.4E+00	1.5E+00	U	2.35E+00	100.0	9310_ALPHABETA	8.11E-02	L	12/04/200 12:	34 I
5299576	BETA	12587-47-2	3.61E+01	pCi/L	3.7E+00	6.0E+00		4.42E+00	100.0	9310_ALPHABETA	8.94E-02	L	12/04/200 10:	39 I
5299629	I-129L	15046-84-1	1.54E+00	pCi/L	3.6E-01	3.6E-01	U	6.43E-01	94.3	I129LL_SEP_LEPS	3.9106E+00	L	12/02/200 10:	46 I
5299559	TC-99	14133-76-7	8.72E+01	pCi/L	6.2E+00	1.0E+01		1.01E+01	100.0	TC99_ETVDSK_LS	1.242E-01	L	12/16/200 21:	33 I
Lab Sample Id: 9HM6AF20	Client Id: B1DYR6	Test User	Contract Nbr MW6-SBB-A1	<b>SAF Nb</b> A06-010	or Sdg Nbr: W04799	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:		1	llection Date: 2005 10:17	
Batch 5299557	<b>Analyte</b> Uranium	<b>CAS#</b> 7440-61-1	Result 2.71E+00	<b>Unit</b> ug/L	CntU 2S 2.8E-01	TotU 2S 2.8E-01	Qua	MDA 3 8.96E-02	ΓrcYield	Method UTOT_KPA	<b>Alq Size</b> 2.34E-02	Unit ML	Analy Date/Time 12/08/200 15:	<b>Ac</b> : 49 I
Lab Sample Id: 9HM6AQ10	Client Id: B1DYR7	Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> b	or <b>Sdg</b> <b>Nbr:</b> W04799	QC Type	<b>:</b>	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	LAND LAND	Collection		
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qua		<b>FrcYield</b>	Method	Alq Size	Unit	Analy Date/Time	Act
5299563	H-3	10028-17-8	-1.39E+02	pCi/L	1.4E+02	1.6E+02	U	3.57E+02	100.0	906.0_H3_LSC	5.00E-03	L	12/10/200 18:	
5299573	ALPHA	12587-46-1	6.69E-02	pCi/L	1.8E-01	1.8E-01	U	3.82E-01	100.0	9310_ALPHABETA	2.012E-01	L	12/04/200 12:	34 I
5299576	BETA	12587-47-2	1.32E+00	pCi/L	9.6E-01	9.7E-01	U	1.81E+00	100.0	9310_ALPHABETA	1.994E-01	L	12/04/200 10:	39 I
5299629	I-129L	15046-84-1	-6.87E-02	pCi/L	1.3E-01	1.3E-01	U	2.20E-01	96.5	I129LL_SEP_LEPS	3.94E+00	L	12/02/200 10:	47 I
5299559	TC-99	14133-76-7	7.02E+00	pCi/L	3.8E+00	5.1E+00	U	9.44E+00	100.0	TC99_ETVDSK_LS	1.239E-01	L	12/16/200 22:	35 I
Lab Sample Id: 9HM6AQ20	Client Id:	Test User	Contract Nbr MW6-SBB-A1	SAF Nb	r <b>Sdg</b> <b>Nbr:</b> W04799	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:	2017/1	l	llection Date: 2005 08:15	
							<b>0</b>	I MDA 1	rcYield	Method	Alq Size	Unit		Act
Batch 5299557	<b>Analyte</b> Uranium	<b>CAS#</b> 7440-61-1	Result 0.00E+00	Unit ug/L	O.0E+00	TotU 2S 0.0E+00	Qua U	2.10E-01		UTOT_KPA	2.45E-02	ML	Analy Date/Time 12/08/200 15:	
Lab Sample Id: 9HM6AX10	Client Id: B1DYT6	Test User	Contract Nbr MW6-SBB-A1	<b>SAF Nb</b> A06-010	r Sdg Nbr: W04799	QC Type	<b>):</b>	Moisture/ Solids%*:	Distilled Volume	Sample On Date:		I	llection Date: 2005 11:55	
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qua	MDA 1	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
5299563	H-3	10028-17-8	7.87E+02	pCi/L	1.7E+02	2.0E+02		3.56E+02	100.0	906.0_H3_LSC	5.00E-03	L	12/10/200 19:	34 I
5299573	ALPHA	12587-46-1	1.83E+00	pCi/L	9.0E-01	9.7E-01		1.12E+00		9310 ALPHABETA	4 00 45 04	L	12/04/200 12:	24 1

STL Richland

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J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

12/22/20	005 7:57:07	AM			$\mathbf{S}$	ΓL Ricl	ılar	d Repoi	rt .				Lab Code: ST	LRL	
FormNb	r: R	FormatType: F	EAD <b>Versi</b>	ion: 05	Rpt N	<b>br:</b> 30860		File Name:	n:\Reportdb\	edd\FeadIV\Rad\W047	99.Edd, h:\Rep	ortdb\e	dd\FeadIV\Rad	\30860.	Edd
5299576	BETA	12587-47-2	8.76E+00	pCi/L	1.5E+00	2.0E+00		2.27E+00	100.0	9310_ALPHABETA	1.672E-01	L	12/04/200	10:39	1
5299629	I-129L	15046-84-1	2.29E+00	pCi/L	4.6E-01	4.6E-01		2.91E-01	96.2	I129LL_SEP_LEPS	3.9211E+00	L	12/02/200	12:32	1
5299559	TC-99	14133-76-7	-1.19E+00	pCi/L	3.3E+00	4.4E+00	U	8.03E+00	100.0	TC99_ETVDSK_LS	1.249E-01	L	12/16/200	23:37	
Lab Sample Id: 9HM6AX20	Client Id: B1DYT6	Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> t A06-010	or Sdg Nbr: W04799	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:			llection Date: 2005 11:55		
<b>Batch</b> 5299557	<b>Analyte</b> Uranium	<b>CAS#</b> 7440-61-1	Result 1.64E+00	<b>Unit</b> ug/L	CntU 2S 1.7E-01	TotU 2S 1.7E-01	Qual	<b>MDA</b> 8.25E-02	TrcYield	Method UTOT_KPA	<b>Alq Size</b> 2.54E-02	Unit ML	Analy Date/T		Act
Lab Sample Id: 9HM6CN10	Client Id: B1DYV1	Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> t A06-010	or Sdg Nbr: W04799	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:			llection Date: 2005 12:56		
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA .	TrcYield	Method	Alq Size	Unit	Analy Date/T	ime	Act
5299563	H-3	10028-17 <b>-</b> 8	5.07E+02	pCi/L	1.6E+02	1.8E+02		3.52E+02	100.0	906.0_H3_LSC	5.00E-03	L	12/10/200	20:56	I
5299573	ALPHA	12587-46-1	1.37E+00	pCi/L	6.4E-01	7.0E-01		8.60E-01	100.0	9310_ALPHABETA	1.795E-01	L	12/04/200	12:34	1
5299576	BETA	12587-47-2	7.90E+00	pCi/L	1.4E+00	1.9E+00		2.01E+00	100.0	9310_ALPHABETA	1.975E-01	L	12/04/200	10:39	- 1
5299629	I-129L	15046-84-1	5.41E-01	pCi/L	2.4E-01	2.4E-01	U	4.20E-01	95.7	I129LL_SEP_LEPS	3.8306E+00	L	12/02/200	12:33	1
5299559	TC-99	14133-76-7	2.15E+00	pCi/L	3.5E+00	4.7E+00	U	8.64E+00	100.0	TC99_ETVDSK_LS	1.266E-01	L	12/17/200	00:40	1
Lab Sample Id: 9HM6CN20	Client Id: B1DYV1	Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> b	or Sdg Nbr: W04799	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:			llection Date: 2005 12:56		
Batch	Analyte	CAS#	Result				Qual	MDA .	rcYield	Method	Alq Size	Unit	Analy Date/Ti	ima	Act
5299557	Uranium	7440-61-1	2.73E+00	ug/L		2.8E-01	Quui	8.96E-02		UTOT_KPA	2.34E-02		12/08/200		
Lab Sample Id: 9HM6CR10	Client Id: B1DYW0	Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> b	or Sdg Nbr: W04799	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:		1	llection Date: 2005 11:49		
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	ΓrcYield	Method	Alq Size	Unit	Analy Date/Ti	me	Act
5299563	H-3	10028-17-8	4.30E+02	pCi/L	1.6E+02	1.8E+02		3.51E+02	100.0	906.0_H3_LSC	5.00E-03	L	12/10/200		
299573	ALPHA	12587-46-1	2.39E+00	pCi/L	8.9E-01	1.0E+00		7.49E-01	100.0	9310_ALPHABETA	1.578E-01	L	12/04/200	12:34	1
5299576	BETA	12587-47-2	1.17E+01	pCi/L	1.5E+00	2.2E+00		2.07E+00	100.0	9310_ALPHABETA	1.944E-01	L	12/04/200	10:39	1
5299629	I-129L	15046-84-1	3.71E-02	pCi/L	1.6E-01	1.6E-01	U	2.98E-01	96.8	I129LL_SEP_LEPS	3.852E+00	L	12/02/200	14:16	١
5299559	TC-99	14133-76-7	1.42E+01	pCi/L	4.0E+00	5.5E+00		9.11E+00	100.0	TC99_ETVDSK_LS	1.256E-01	L	12/17/200	02:45	I
Lab Sample Id: 9HM6CR20	Client Id: B1DYW0	Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> b	r <b>Sdg</b> <b>Nb</b> r: W04799	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:		ı	llection Date: 2005 11:49		

STL Richland

rptFeadRadSummaryEdd v3.48

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL). B Qual- Analyte was found in the associated laboratory blank above the MDC.

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd. h:\Reportdb\edd\FeadIV\Rad\30860.Edd FormNbr: R FormatType: FEAD Version: 05 Rpt Nbr: 30860 Batch Analyte CAS# Result Unit CntU 2S TotU 2S Qual MDA TrcYield Method Alq Size Unit **Analy Date/Time** Act 5299557 3.6E-01 8.66E-02 2.42E-02 12/08/200 16:06 Uranium 7440-61-1 3.48E+00 ug/L 3.6E-01 UTOT KPA Lab SAF Nbr QC Distilled Sample Collection Client Test Contract Sdg Moisture/ Nbr: Type: On Date: Date: Sample Id: ld: User Nbr Solids%\*: Volume 10/19/2005 10:49 9HM6CV10 B1DYV3 W04799 MW6-SBB-A1 A06-010 CAS# CntU 2S TotU 2S Qual MDA TrcYield Method Ala Size **Analy Date/Time** Batch **Analyte** Result Unit Unit Act H-3 1.5F+02 1.6F+02 U 3.58E+02 100.0 906.0 H3 LSC 5.00E-03 12/10/200 23:41 5299563 10028-17-8 -2 73F+01 pCi/l 12/05/200 07:49 5299573 **ALPHA** 12587-46-1 1.92E+00 pCi/L 9.1E-01 9.9E-01 1.21E+00 100.0 9310 ALPHABETA 1.416E-01 L 8.38E+00 pCi/L 1.3E+00 1.9E+00 1.83E+00 100.0 9310 ALPHABETA 1.923E-01 L 12/04/200 10:39 5299576 **BETA** 12587-47-2 5299629 I-129L 1.28E-01 pCi/L 1.3E-01 1.3E-01 U 2.70E-01 97.0 1129LL SEP LEPS 3.92E+00 12/02/200 14:17 15046-84-1 U TC99 ETVDSK LS 1.321E-01 L 12/17/200 04:49 5299559 TC-99 14133-76-7 -3.08E-02 pCi/L 3.2E+00 4.3E+00 7.89E+00 100.0 SAF Nbr Sda QC Moisture/ Distilled Sample Collection Lab Client Test Contract Sample Id: User Nbr Nbr: Type: Solids%\*: Volume On Date: Date: ld: W04799 10/19/2005 10:49 9HM6CV20 B1DYV3 MW6-SBB-A1 A06-010 CAS# CntU 2S TotU 2S Qual MDA **TrcYield** Method Alq Size Unit **Analy Date/Time** Act Batch Analyte Result Unit 2.4E-01 8.06E-02 UTOT KPA 2.60E-02 12/08/200 16:10 5299557 Uranium 7440-61-1 2.31E+00 uq/L 2.4E-01 Client Contract SAF Nbr Sdg QC Moisture/ Distilled Sample Collection Lab Test Nbr Nbr: Type: Solids%\*: Volume On Date: Date: Sample Id: ld: User 9HM93110 B1F1F5 W04799 10/20/2005 10:46 MW6-SBB-A1 S06-010 CAS# Result Unit CntU 2S TotU 2S Qual MDA **TrcYield** Method Ala Size Unit **Analy Date/Time** Act Batch Analyte 2.3E+02 2.9E+02 3.50E+02 100.0 906.0 H3 LSC 5.00E-03 12/11/200 02:26 10028-17-8 2.98E+03 pCi/L 5299563 H-3 Collection Lab Client Test Contract SAF Nbr Sdg QC Moisture/ Distilled Sample Nhr Nbr: Type: Solids%\*: Volume On Date: Date: Sample Id: ld: User 10/20/2005 11:11 9HM93510 B1F1F8 MW6-SBB-A1 S06-010 W04799 **Analy Date/Time** CntU 2S TotU 2S MDA TrcYield Method Alg Size Unit Act Batch Analyte CAS# Result Unit Qual 12/11/200 09:20 3.24E+03 pCi/L 2.4E+02 3.0E+02 3.53E+02 100.0 906.0 H3\_LSC 5.00E-03 5299563 H-3 10028-17-8 QC Distilled Collection Lab Client Test Contract SAF Nbr Sdg Moisture/ Sample Date: Nbr Nbr: Type: Solids%\*: Volume On Date: Sample Id: ld: User 10/20/2005 12:31 9HM93610 B1F1D6 MW6-SBB-A1 S06-010 W04799 TotU 2S Qual MDA TrcYield Method Alq Size Unit **Analy Date/Time** Act Analyte CAS# Result CntU 2S Batch 12/11/200 10:42 10028-17-8 7.2E+02 2.0E+03 3.54E+02 100.0 906.0 H3 LSC 5.00E-03 5299563 H-3 4.43E+04 pCi/L 9310 ALPHABETA 1.97E-01 L 12/05/200 07:49 8.6E-01 1.0E+00 7.47E-01 100.0 5299573 **ALPHA** 12587-46-1 2.73E+00 pCi/L 12587-47-2 2.14E+01 1.8E+00 3.2E+00 1.97E+00 100.0 9310 ALPHABETA 1.999E-01 L 12/04/200 10:39 5299576 **BETA** pCi/L L U 1129LL SEP LEPS 3.9743E+00 12/02/200 16:11 5299629 I-129L 15046-84-1 6.34E-02 pCi/L 1.6E-01 1.6E-01 3.07E-01 96.5

STL Richland

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### STL Richland Report

Lab Code: STLRL

FormNb	r: R	FormatType:	FEAD <b>Vers</b>	ion: 05	Rpt N	<b>br</b> : 30860		File Name: h	ı:\Reportdb\e	edd\FeadIV\Rad\W047	99.Edd, h:\Re	portdb\e	dd\FeadIV\Rad\30860.	.Edd
Lab Sample Id: 9HM93M10		Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> b	Nbr:	QC Typ		Moisture/ Solids%*:	Distilled Volume	Sample On Date:			Dilection Date: /2005 10:11	
<b>Batch</b> 5299563	Analyte H-3	<b>CAS#</b> 10028-17-8	<b>Result</b> 9.79E+03	<b>Unit</b> pCi/L	CntU 2S 3.6E+02	TotU 2S 5.7E+02	Qua	3.51E+02	TrcYield 100.0	Method 906.0_H3_LSC	Alq Size 5.00E-03	Unit L	Analy Date/Time 12/11/200 01:04	Act
Lab Sample Id: 9HNE5310		Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> b	or Sdg Nbr: W04799	QC Typ		Moisture/ Solids%*:	Distilled Volume	Sample On Date:			Dilection Date: /2005 10:55	
<b>Batch</b> 5299559	Analyte TC-99	<b>CAS#</b> 14133-76-7	Result 1.30E+02	<b>Unit</b> pCi/L	CntU 2S 6.7E+00	TotU 2S 1.2E+01	Qua	MDA . 9.08E+00	TrcYield 100.0	Method TC99_ETVDSK_LS	<b>Alq Size</b> 1.259E-01	Unit L	Analy Date/Time 12/17/200 06:54	Act
Lab Sample Id: 9HNE5710		Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> b	or Sdg Nbr: W04799	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:			Date: /2005 10:00	
Batch	Analyte	CAS#	Result		CntU 2S	TotU 2S	Qua		TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
5299563	H-3	10028-17-8	3.48E+02	pCi/L		1.8E+02	U	3.52E+02		906.0_H3_LSC	5.00E-03	L	12/11/200 13:27	
5299576	BETA	12587-47-2		pCi/L		1.6E+00		1.95E+00		9310_ALPHABETA		L	12/04/200 10:40	
5299630	C-14	14762-75-5	1.49E+02	pCI/L	7.1E+00	1.1⊑+01		8.66E+00	100.0	C14_LSC	2.00E-01	L	12/08/200 02:39	
Lab Sample Id: 9HNE5H10		Test User	Contract Nbr MW6-SBB-A1	<b>SAF N</b> b	or Sdg Nbr: W04799	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:			ollection Date: /2005 12:18	
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qua	I MDA -	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
5299563	H-3	10028-17-8	1.17E+03	pCi/L	1.9E+02	2.1E+02		3.53E+02	100.0	906.0_H3_LSC	5.00E-03	L	12/11/200 12:05	1
5299573	ALPHA	12587-46-1	1.88E+00	pCi/L	8.3E-01	9.1E-01		9.82E-01	100.0	9310_ALPHABETA	1.416E-01	L	12/05/200 07:49	1
5299576	BETA	12587-47-2	8.81E+00	pCi/L	1.4E+00	1.8E+00		2.03E+00	100.0	9310_ALPHABETA	1.81E-01	L	12/04/200 10:39	1
5299629	I-129L	15046-84-1	1.01E+00	pCi/L	3.3E-01	3.3E-01	U	5.27E-01	98.6	I129LL_SEP_LEPS	3.894E+00	L	12/02/200 18:22	. 1
5299559	TC-99	14133-76-7	1.98E+00	pCi/L	3.4E+00	4.7E+00	U	8.22E+00	100.0	TC99_ETVDSK_LS	1.237E-01	L	12/17/200 05:52	
Lab Sample Id: 9HNE5H20		Test User	Contract Nbr MW6-SBB-A1	<b>SAF Nb</b> A06-010	or Sdg Nbr: W04799	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:			llection Date: 2005 12:18	
<b>Batch</b> 5299557	<b>Analyte</b> Uranium	<b>CAS#</b> 7440-61-1	Result 2.49E+00	<b>Unit</b> ug/L	CntU 2S 2.6E-01	<b>TotU 2S</b> 2.6E-01	Qua	MDA 1 8.32E-02	ΓrcYield	<b>Method</b> UTOT_KPA	<b>Alq Size</b> 2.52E-02	Unit ML	Analy Date/Time . 12/08/200 16:21	Act I
Lab Sample Id: 9HNE6F10		Test User	Contract Nbr MW6-SBB-A1	<b>SAF Nb</b>	or Sdg Nbr: W04799	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:	The state of the s		llection Date: 2005 10:55	

STL Richland

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	005 7:57:07	AM			S'	TL Ric	hland	l Report				Lab Code: ST	LRL	
FormNb	or: R	FormatType: FE	EAD <b>Versi</b>	on: 05	Rpt N	lbr: 30860		File Name: h:\Repor	rtdb\edd\FeadIV\Rad\W047	∕99.Edd, h:\Rep	ortdb\e	dd\FeadIV\Rad	\30860.I	Edd
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA TrcYield		Alq Size	Unit	Analy Date/T	ime	Act
5299563	H-3	10028-17-8	9.56E+03	pCi/L	3.6E+02	5.6E+02		3.50E+02 100.0	906.0_H3_LSC	5.00E-03	L	12/11/200	14:50	I
5299573	ALPHA	12587-46-1	1.34E+00	pCi/L	6.7E-01	7.2E-01		9.54E-01 100.0	9310_ALPHABETA	1.688E-01	L	12/05/200	07:49	1
5299576	BETA	12587-47-2	3.80E+01	pCi/L	2.3E+00	5.3E+00		2.12E+00 100.0	9310_ALPHABETA	1.934E-01	L	12/04/200	10:40	I
5299583	BE-7	13966-02-4	-1.52E+01	pCi/L	1.9E+01	1.9E+01	U	3.08E+01	GAMMA_GS	2.5371E+00	L	11/28/200	05:33	i
5299583	CO-60	10198-40-0	-8.14E-01	pCi/L	1.9E+00	1.9E+00	U	3.43E+00	GAMMA_GS	2.5371E+00	L	11/28/200	05:33	I
5299583	CS-134	13967-70-9	7.62E-03	pCi/L	2.0E+00	2.0E+00	U	3.76E+00	GAMMA_GS	2.5371E+00	L	11/28/200	05:33	1
5299583	CS-137	10045-97-3	-1.70E+00	pCi/L	1.7E+00	1.7E+00	U	2.71E+00	GAMMA_GS	2.5371E+00	L	11/28/200	05:33	1
5299583	EU-152	14683-23-9	-2.34E-01	pCi/L	4.3E+00	4.3E+00	U	7.81E+00	GAMMA_GS	2.5371E+00	L	11/28/200	05:33	ı
5299583	EU-154	15585-10-1	-7.72E-01	pCi/L	5.1E+00	5.1E+00	U	9.75E+00	GAMMA_GS	2.5371E+00	L	11/28/200	05:33	ı
5299583	EU-155	14391-16-3	1.53E+00	pCi/L	3.7E+00	3.7E+00	U	6.93E+00	GAMMA_GS	2.5371E+00	L	11/28/200	05:33	I
5299583	K-40	13966-00-2	-4.03E+01	pCi/L	4.0E+01	4.0E+01	U	8.47E+01	GAMMA_GS	2.5371E+00	L	11/28/200	05:33	1
5299583	RU-106	13967-48-1	1.39E+00	pCi/L	1.4E+01	1.4E+01	U	2.77E+01	GAMMA_GS	2.5371E+00	L	11/28/200	05:33	1
5299583	SB-125	14234-35-6	9.53E-01	pCi/L	3.7E+00	3.7E+00	U	7.08E+00	GAMMA_GS	2.5371E+00	L	11/28/200	05:33	1
Lab Sample Id:	Client : Id:	Test User	Contract Nbr	SAF N	br Sdg Nbr:	QC Typ		olids%*: Disti	•	A SAME	Co	ollection Date:		
9HNH1610	B1F356	R.	/IW6-SBB-A1	106-001	W04799	9					10/24	/2005 11:17		
		14	###O-ODD-711	100 001							10,24			
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA TrcYield		Alq Size	Unit	Analy Date/T	ime	Act
5299563	H-3	<b>CAS#</b> 10028-17-8			CntU 2S	1.8E+02	Qual	3.66E+02 100.0	906.0_H3_LSC	5.00E-03				
5299563 5299573	H-3 ALPHA	CAS#	Result 3.68E+02 8.41E-01	Unit pCi/L pCi/L	CntU 2S		<b>Qual</b> U	3.66E+02 100.0 8.44E-01 100.0	906.0_H3_LSC 9310_ALPHABETA	5.00E-03	Unit	Analy Date/T	21:43	
5299563 5299573 5299576	H-3	<b>CAS#</b> 10028-17-8	Result 3.68E+02	<b>Unit</b> pCi/L	CntU 2S 1.6E+02	1.8E+02		3.66E+02 100.0	906.0_H3_LSC 9310_ALPHABETA	5.00E-03 1.981E-01	Unit L	Analy Date/T 12/11/200	21:43 07:49	
5299563 5299573	H-3 ALPHA	<b>CAS#</b> 10028-17-8 12587-46-1	Result 3.68E+02 8.41E-01	Unit pCi/L pCi/L	CntU 2S 1.6E+02 5.3E-01	1.8E+02 5.6E-01		3.66E+02 100.0 8.44E-01 100.0	906.0_H3_LSC 9310_ALPHABETA	5.00E-03 1.981E-01	Unit L L	Analy Date/T 12/11/200 12/05/200	21:43 07:49 07:50	
5299563 5299573 5299576	H-3 ALPHA BETA	CAS# 10028-17-8 12587-46-1 12587-47-2	Result 3.68E+02 8.41E-01 7.29E+01	Unit pCi/L pCi/L pCi/L	CntU 2S 1.6E+02 5.3E-01 3.0E+00	1.8E+02 5.6E-01 9.9E+00	U	3.66E+02 100.0 8.44E-01 100.0 1.94E+00 100.0	906.0_H3_LSC 9310_ALPHABETA 9310_ALPHABETA	5.00E-03 1.981E-01 1.986E-01	Unit L L L	Analy Date/T 12/11/200 12/05/200 12/05/200	21:43 07:49 07:50 05:33	
5299563 5299573 5299576 5299583	H-3 ALPHA BETA BE-7	CAS# 10028-17-8 12587-46-1 12587-47-2 13966-02-4	Result 3.68E+02 8.41E-01 7.29E+01 6.92E+00	Unit pCi/L pCi/L pCi/L pCi/L	CntU 2S 1.6E+02 5.3E-01 3.0E+00 1.7E+01	1.8E+02 5.6E-01 9.9E+00 1.7E+01	U	3.66E+02 100.0 8.44E-01 100.0 1.94E+00 100.0 3.40E+01	906.0_H3_LSC 9310_ALPHABETA 9310_ALPHABETA GAMMA_GS	5.00E-03 1.981E-01 1.986E-01 2.5086E+00	Unit L L L	Analy Date/T 12/11/200 12/05/200 12/05/200 11/28/200	21:43 07:49 07:50 05:33 05:33	
5299563 5299573 5299576 5299583 5299583	H-3 ALPHA BETA BE-7 CO-60	CAS# 10028-17-8 12587-46-1 12587-47-2 13966-02-4 10198-40-0	Result 3.68E+02 8.41E-01 7.29E+01 6.92E+00 -1.11E+00	Unit pCi/L pCi/L pCi/L pCi/L pCi/L	CntU 2S 1.6E+02 5.3E-01 3.0E+00 1.7E+01 1.6E+00	1.8E+02 5.6E-01 9.9E+00 1.7E+01 1.6E+00	U U U	3.66E+02 100.0 8.44E-01 100.0 1.94E+00 100.0 3.40E+01 2.76E+00	906.0_H3_LSC 9310_ALPHABETA 9310_ALPHABETA GAMMA_GS GAMMA_GS	5.00E-03 1.981E-01 1.986E-01 2.5086E+00 2.5086E+00	Unit L L L L	Analy Date/T 12/11/200 12/05/200 12/05/200 11/28/200 11/28/200	21:43 07:49 07:50 05:33 05:33	
5299563 5299573 5299576 5299583 5299583 5299583	H-3 ALPHA BETA BE-7 CO-60 CS-134	CAS# 10028-17-8 12587-46-1 12587-47-2 13966-02-4 10198-40-0 13967-70-9	Result 3.68E+02 8.41E-01 7.29E+01 6.92E+00 -1.11E+00 1.90E-01	Unit pCi/L pCi/L pCi/L pCi/L pCi/L	CntU 2S 1.6E+02 5.3E-01 3.0E+00 1.7E+01 1.6E+00 2.0E+00	1.8E+02 5.6E-01 9.9E+00 1.7E+01 1.6E+00 2.0E+00	U U U	3.66E+02 100.0 8.44E-01 100.0 1.94E+00 100.0 3.40E+01 2.76E+00 3.82E+00	906.0_H3_LSC 9310_ALPHABETA 9310_ALPHABETA GAMMA_GS GAMMA_GS GAMMA_GS	5.00E-03 1.981E-01 1.986E-01 2.5086E+00 2.5086E+00	Unit L L L L	Analy Date/T 12/11/200 12/05/200 12/05/200 11/28/200 11/28/200 11/28/200	21:43 07:49 07:50 05:33 05:33 05:33	
5299563 5299573 5299576 5299583 5299583 5299583 5299583	H-3 ALPHA BETA BE-7 CO-60 CS-134 CS-137	CAS# 10028-17-8 12587-46-1 12587-47-2 13966-02-4 10198-40-0 13967-70-9 10045-97-3	Result 3.68E+02 8.41E-01 7.29E+01 6.92E+00 -1.11E+00 1.90E-01 -5.50E-01	Unit pCi/L pCi/L pCi/L pCi/L pCi/L pCi/L	CntU 2S 1.6E+02 5.3E-01 3.0E+00 1.7E+01 1.6E+00 2.0E+00 1.6E+00	1.8E+02 5.6E-01 9.9E+00 1.7E+01 1.6E+00 2.0E+00 1.6E+00	U U U U	3.66E+02 100.0 8.44E-01 100.0 1.94E+00 100.0 3.40E+01 2.76E+00 3.82E+00 2.88E+00	906.0_H3_LSC 9310_ALPHABETA 9310_ALPHABETA GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS	5.00E-03 1.981E-01 1.986E-01 2.5086E+00 2.5086E+00 2.5086E+00	Unit L L L L L	Analy Date/T 12/11/200 12/05/200 12/05/200 11/28/200 11/28/200 11/28/200 11/28/200	21:43 07:49 07:50 05:33 05:33 05:33 05:33	
5299563 5299573 5299576 5299583 5299583 5299583 5299583 5299583	H-3 ALPHA BETA BE-7 CO-60 CS-134 CS-137 EU-152	CAS# 10028-17-8 12587-46-1 12587-47-2 13966-02-4 10198-40-0 13967-70-9 10045-97-3 14683-23-9	Result 3.68E+02 8.41E-01 7.29E+01 6.92E+00 -1.11E+00 1.90E-01 -5.50E-01 1.60E+00	Unit pCi/L pCi/L pCi/L pCi/L pCi/L pCi/L pCi/L pCi/L	CntU 2S 1.6E+02 5.3E-01 3.0E+00 1.7E+01 1.6E+00 2.0E+00 1.6E+00 4.3E+00	1.8E+02 5.6E-01 9.9E+00 1.7E+01 1.6E+00 2.0E+00 1.6E+00 4.3E+00	U U U U U U U	3.66E+02 100.0 8.44E-01 100.0 1.94E+00 100.0 3.40E+01 2.76E+00 3.82E+00 2.88E+00 8.02E+00	906.0_H3_LSC 9310_ALPHABETA 9310_ALPHABETA GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS	5.00E-03 1.981E-01 1.986E-01 2.5086E+00 2.5086E+00 2.5086E+00 2.5086E+00	Unit L L L L L	Analy Date/T 12/11/200 12/05/200 12/05/200 11/28/200 11/28/200 11/28/200 11/28/200 11/28/200	21:43 07:49 07:50 05:33 05:33 05:33 05:33 05:33	
5299563 5299573 5299576 5299583 5299583 5299583 5299583 5299583	H-3 ALPHA BETA BE-7 CO-60 CS-134 CS-137 EU-152 EU-154	CAS# 10028-17-8 12587-46-1 12587-47-2 13966-02-4 10198-40-0 13967-70-9 10045-97-3 14683-23-9 15585-10-1	Result 3.68E+02 8.41E-01 7.29E+01 6.92E+00 -1.11E+00 1.90E-01 -5.50E-01 1.60E+00 2.88E+00	Unit pCi/L pCi/L pCi/L pCi/L pCi/L pCi/L pCi/L pCi/L pCi/L	CntU 2S 1.6E+02 5.3E-01 3.0E+00 1.7E+01 1.6E+00 2.0E+00 1.6E+00 4.3E+00 6.0E+00	1.8E+02 5.6E-01 9.9E+00 1.7E+01 1.6E+00 2.0E+00 1.6E+00 4.3E+00 6.0E+00	U U U U U U U U	3.66E+02 100.0 8.44E-01 100.0 1.94E+00 100.0 3.40E+01 2.76E+00 3.82E+00 2.88E+00 8.02E+00 1.25E+01	906.0_H3_LSC 9310_ALPHABETA 9310_ALPHABETA GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS	5.00E-03 1.981E-01 1.986E-01 2.5086E+00 2.5086E+00 2.5086E+00 2.5086E+00 2.5086E+00	Unit L L L L L L L L L L L L L L L L L L L	Analy Date/T 12/11/200 12/05/200 12/05/200 11/28/200 11/28/200 11/28/200 11/28/200 11/28/200	21:43 07:49 07:50 05:33 05:33 05:33 05:33 05:33	
5299563 5299573 5299576 5299583 5299583 5299583 5299583 5299583 5299583	H-3 ALPHA BETA BE-7 CO-60 CS-134 CS-137 EU-152 EU-154 EU-155	CAS# 10028-17-8 12587-46-1 12587-47-2 13966-02-4 10198-40-0 13967-70-9 10045-97-3 14683-23-9 15585-10-1 14391-16-3	Result 3.68E+02 8.41E-01 7.29E+01 6.92E+00 -1.11E+00 1.90E-01 -5.50E-01 1.60E+00 2.88E+00 3.29E-01	Unit pCi/L	CntU 2S 1.6E+02 5.3E-01 3.0E+00 1.7E+01 1.6E+00 2.0E+00 1.6E+00 4.3E+00 6.0E+00 3.1E+00	1.8E+02 5.6E-01 9.9E+00 1.7E+01 1.6E+00 2.0E+00 1.6E+00 4.3E+00 6.0E+00 3.1E+00	U U U U U U U U U	3.66E+02 100.0 8.44E-01 100.0 1.94E+00 100.0 3.40E+01 2.76E+00 3.82E+00 2.88E+00 8.02E+00 1.25E+01 5.49E+00	906.0_H3_LSC 9310_ALPHABETA 9310_ALPHABETA GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS	5.00E-03 1.981E-01 1.986E-01 2.5086E+00 2.5086E+00 2.5086E+00 2.5086E+00 2.5086E+00 2.5086E+00	Unit L L L L L L L L L L L L L L L L L L L	Analy Date/T 12/11/200 12/05/200 12/05/200 11/28/200 11/28/200 11/28/200 11/28/200 11/28/200 11/28/200	21:43 07:49 07:50 05:33 05:33 05:33 05:33 05:33 05:33	
5299563 5299573 5299576 5299583 5299583 5299583 5299583 5299583 5299583 5299583	H-3 ALPHA BETA BE-7 CO-60 CS-134 CS-137 EU-152 EU-154 EU-155 K-40	CAS# 10028-17-8 12587-46-1 12587-47-2 13966-02-4 10198-40-0 13967-70-9 10045-97-3 14683-23-9 15585-10-1 14391-16-3 13966-00-2	Result 3.68E+02 8.41E-01 7.29E+01 6.92E+00 -1.11E+00 1.90E-01 -5.50E-01 1.60E+00 2.88E+00 3.29E-01 -4.73E+01	Unit pCi/L	CntU 2S 1.6E+02 5.3E-01 3.0E+00 1.7E+01 1.6E+00 2.0E+00 1.6E+00 4.3E+00 6.0E+00 3.1E+00 4.2E+01	1.8E+02 5.6E-01 9.9E+00 1.7E+01 1.6E+00 2.0E+00 1.6E+00 4.3E+00 6.0E+00 3.1E+00 4.2E+01	U U U U U U U U U U	3.66E+02 100.0 8.44E-01 100.0 1.94E+00 100.0 3.40E+01 2.76E+00 3.82E+00 2.88E+00 8.02E+00 1.25E+01 5.49E+00 8.97E+01	906.0_H3_LSC 9310_ALPHABETA 9310_ALPHABETA GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS GAMMA_GS	5.00E-03 1.981E-01 1.986E-01 2.5086E+00 2.5086E+00 2.5086E+00 2.5086E+00 2.5086E+00 2.5086E+00 2.5086E+00	Unit L L L L L L L L L L L L L L L L L L L	Analy Date/T 12/11/200 12/05/200 12/05/200 11/28/200 11/28/200 11/28/200 11/28/200 11/28/200 11/28/200 11/28/200	21:43 07:49 07:50 05:33 05:33 05:33 05:33 05:33 05:33	

STL Richland

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

12/22/2005	7.57.07	411
14/44/4003	7.37.07	77. IV.

# STL Richland Report

FormNb	r: R	FormatType:	FEAD <b>Vers</b> i	i <b>on</b> : 05	Rpt N	<b>br:</b> 30860		File Name: 1	n:\Reportdb\	edd\FeadIV\Rad\W047	'99.Edd, h:\Rep	ortdb\e	dd\FeadIV\Rad\	30860.	Edd
Lab Sample Id: 9HNH1810	Client Id: B1F1C5	Test User	Contract Nbr MW6-SBB-A1	<b>SAF Nb</b> S06-010	or Sdg Nbr: W04799	QC Typ		Moisture/ Solids%*:	Distilled Volume				Date: 2005 08:00		
Batch	Analyte	CAS#	Result		CntU 2S	TotU 2S	Qua		TrcYield	Method	Alq Size	Unit	Analy Date/Ti		Act
5299563	H-3	10028-17-8	-5.40E+01	pCi/L	1.5E+02		U	3.60E+02		906.0_H3_LSC	5.00E-03	L	12/11/200		
5299573	ALPHA	12587-46-1	7.94E-02	pCi/L	2.4E-01	2.4E-01	U	5.14E-01		9310_ALPHABETA	1.953E-01	L	12/05/200	07:49	ļ
5299576	BETA	12587-47-2	5.03E-01	pCi/L	9.5E-01	9.5E-01	U	1.88E+00	100.0	9310_ALPHABETA	1.992E-01	L	12/05/200	07:50	i
Lab Sample Id: 9HNH1P10		Test User	Contract Nbr MW6-SBB-A1	<b>SAF Nb</b> A06-010	r Sdg Nbr: W04799	QC Typ		Moisture/ Solids%*:	Distilled Volume	•			llection Date: 2005 10:27		
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qua	I MDA	TrcYield	Method	Alg Size	Unit	Analy Date/Ti	ime	Act
5299563	H-3	10028-17-8	1.15E+02	pCi/L	1.5E+02	1.7E+02	U	3.55E+02	100.0	906.0_H3_LSC	5.00E-03	L	12/11/200		1
5299573	ALPHA	12587-46-1	1.42E+00	pCi/L	7.0E-01	7.5E-01		8.72E-01	100.0	9310_ALPHABETA	1.525E-01	L	12/05/200	07:49	1
5299576	BETA	12587-47-2	6.55E+00	pCi/L	1.2E+00	1.7E+00		1.87E+00	100.0	9310_ALPHABETA	2.037E-01	L	12/04/200	10:40	ı
5299629	I-129L	15046-84-1	3.87E-01	pCi/L	1.7E-01	1.7E-01	U	3.61E-01	96.8	I129LL_SEP_LEPS	3.8978E+00	L	12/02/200	18:22	ı
5299559	TC-99	14133-76-7	7.48E+00	pCi/L	3.8E+00	5.1E+00	U	9.40E+00	100.0	TC99_ETVDSK_LS		L	12/17/200	07:57	ı
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nb	r Sdg Nbr:	QC Typ		Moisture/ Solids%*:	Distilled Volume	•	***************************************		llection Date:		
9HNH1P20	B1DYT7		MW6-SBB-A1	A06-010	W04799	)						10/24/	2005 10:27		
<b>Batch</b> 5299557	<b>Analyte</b> Uranium	<b>CAS#</b> 7440-61-1	<b>Result</b> 2.28E+00	<b>Unit</b> ug/L	CntU 2S 2.3E-01	TotU 2S 2.3E-01	Qua	1 <b>MDA</b> 7.46E-02	TrcYield	Method UTOT_KPA	<b>Alq Size</b> 2.81E-02	Unit ML	Analy Date/Ti 12/08/200		Act 
Lab Sample Id: 9HNH1V10	Client Id: B1DYT8	Test User	Contract Nbr MW6-SBB-A1	<b>SAF Nb</b> A06-010	r Sdg Nbr: W04799	QC Typ		Moisture/ Solids%*:	Distilled Volume	Sample On Date:			llection Date: 2005 08:00	Maria e	
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qua	I MDA .	TrcYield	Method	Alq Size	Unit	Analy Date/Ti	me	Act
5299563	H-3	10028-17-8	-6.72E+01	pCi/L	1.5E+02	1.6E+02	U	3.66E+02	100.0	906.0_H3_LSC	5.00E-03	L	12/11/200	18:58	I
5299573	ALPHA	12587-46-1	-2.51E-01	pCi/L	2.5E-01	2.5E-01	U	6.52E-01	100.0	9310_ALPHABETA	1.993E-01	L	12/05/200	07:49	1
5299576	BETA	12587-47-2	1.72E-01	pCi/L	1.0E+00	1.0E+00	U	2.01E+00	100.0	9310_ALPHABETA	2.014E-01	L	12/04/200	10:40	I
5299629	I-129L	15046-84-1	3.31E-02	pCi/L	1.5E-01	1.5E-01	U	2.84E-01	96.5	I129LL_SEP_LEPS	3.9195E+00	L	12/02/200	20:05	- 1
5299559	TC-99	14133-76-7	1.31E+01	pCi/L	4.2E+00	5.6E+00		1.02E+01	100.0	TC99_ETVDSK_LS	1.248E-01	L	12/17/200	10:01	i
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nb	Nbr:	QC Typ		Moisture/ Solids%*:	Distilled Volume	Sample On Date:					
9HNH1V20	B1DYT8		MW6-SBB-A1	A06-010	W04799	)						10/24/	2005 08:00		
Batch	Analyte	CAS#	Result			TotU 2S	Qual		<b>FrcYield</b>	Method	Alq Size	Unit	Analy Date/Ti		Act
<u>5299557</u> STL Richlaı	<u>Uranium</u>	7440-61-1	0.00E+00	ug/L	0.0E+00		<u>U</u> _	2.10E-01		UTOT KPA a scan did not ident	2.30E-02	ML	12/08/200	<u> 16:34</u>	

rptFeadRadSummaryEdd v3.48

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

Lab Code: STLRL

12/22/2005 7:57:07 AM

# STL Richland Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

Version: 05

Rpt Nbr: 30860

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

				~						****					
Lab Sample Id: 9HNH1W10	Client Id:	Test User	Contract Nbr MW6-SBB-A1	<b>SAF Nb</b> A06-010	r Sdg Nbr: W04799	QC Typ		Moisture/ Solids%*:	Distilled Volume				llection Date: 2005 12:04		MANAGE
Batch	Analyte	CAS#	Result			TotU 2S	Qua	al MDA	TrcYield	Method	Ala Siza	Unit		ima	A = 4
5299563	H-3	10028-17-8	9.70E+02	pCi/L	1.8E+02	2.0E+02	Guc	3.51E+02		906.0_H3_LSC	Alq Size 5.00E-03	L	Analy Date/Ti 12/11/200	20:20	Act
5299573	ALPHA	12587-46-1	1.99E+00	pCi/L	8.3E-01	9.2E-01		1.14E+00		9310 ALPHABETA		L	12/11/200		
5299576	BETA	12587-47-2		pCi/L	1.5E+00	1.8E+00		2.28E+00		9310_ALPHABETA		L	12/05/200		
5299629	I-129L	15046-84-1	1.07E+00	pCi/L	3.3E-01	3.3E-01	U			1129LL SEP LEPS		L			
5299559	TC-99	14133-76-7	1.26E+01	pCi/L		5.5E+00	U	9.86E+00		TC99_ETVDSK_LS		<u>.</u>			;
	10-99	14133-70-7	1,202701	POIL	4.16+00	J.JL+00		9.001	7 100.0	TC99_ETVDSK_ES	1.207 E-01	ļ	12/17/200	11.04	
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nb	r Sdg Nbr:	QC Typ		Moisture/ Solids%*:	Distilled Volume				llection Date:		
9HNH1W20	B1DYT0		MW6-SBB-A1	A06-010	W04799	)						10/24/	2005 12:04		
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qua	al MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Ti	ime	Act
5299557	Uranium	7440-61-1	2.52E+00	ug/L	2.6E-01	2.6E-01		8.38E-02		UTOT_KPA	2.50E-02	ML	12/08/200	16:42	1
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nb	Nbr:	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:	***************************************	I	llection Date:		
9HNH2C10	B1F1C4		MW6-SBB-A1	S06-010	W04799	1						10/24/:	2005 13:51		
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qua	al MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Ti	ime	Act
5299563	H-3	10028-17-8	2.77E+04	pCi/L	5.8E+02	1.3E+03		3.55E+02	100.0	906.0_H3_LSC	5.00E-03	L	12/12/200	00:28	1
5299573	ALPHA	12587-46-1	1.79E+00	pCi/L	9.1E-01	1.1E+00		1.24E+00	100.0	9310_ALPHABETA	1.436E-01	L	12/05/200	07:49	ı
5299576	BETA	12587-47-2	1.65E+01	pCi/L	1.7E+00	2.7E±00		2.06E+00	100.0	9310_ALPHABETA	1 9025 01	L	12/05/200	07:50	- 1

## STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

Moisture/Solids%\*:

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNM671AB

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/24/2005 10:27

Client Id:

NA

Matrix:

QC Type:

**WATER BLK** 

WATER

Sample On Date:

Received Date:

10/24/2005

SAF Nbr

**Contract Nbr** MW6-SBB-A19981 **Test User** Case Nbr

SAS Nbr

Suffix Decant

**Distilled Volume** 

File Id

FSuffix RTyp BP

Batch # / Qc Type

5299557

Analyt/ CAS# Uranium

Result/ Orig Rst 0.00E+00

Tot/Cnt Unit Uncert 2S ug/L 0.0E+00

Qual U

MDC 2.10E-01 Tracer Yield

Spk Conc/ %Rec

Analy Aliq Method UTOT\_KPA

Date/Time Size/ Analyzed 2.55E-02 12/05/2005

RPD/ UCL

RER/ UCL

LCS LCL/UCL Typ

Н

D

R

7440-61-1 BLK

0.0E+00

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNM701AB

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/24/2005 10:27

Client Id:

NA

Matrix: **WATER** 

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type:

**BLK** 

**Received Date:** 

10/24/2005

SAF Nbr

**Contract Nbr** MW6-SBB-A19981 Case Nbr

SAS Nbr

Suffix

Decant

**Distilled Volume** 

Batch #/

Qc Type

**BLK** 

Analyt/ Result/ CAS# **Orig Rst** 5299563 H-3

-6.74E+01

Tot/Cnt Unit Uncert 2S pCi/L 1.6E+02

Qual MDC U

Tracer Yield 3.60E+02 100.0

Spk Conc/ %Rec

Analy Method 906.0 H3 LSC 5.00E-03

Aliq Size/

Date/Time Analyzed 12/10/2005 RPD/ UCL

File Id

RER/ LCS UCL

LCL/UCL Typ D

Н

R

FSuffix RTyp

BS

L 14:03

10028-17-8

**Test User** 

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNM701DX

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/24/2005 10:27

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

10/24/2005

Moisture/Solids%\*:

QC Type:

BLK

**Received Date:** 

RER/

UCL

SAF Nbr

**Contract Nbr** MW6-SBB-A19981 **Test User** 

Case Nbr

SAS Nbr

Suffix

Decant

**Distilled Volume** 

File Id FSuffix RTyp

Batch #/ Analyt/ Qc Type CAS#

Result/ Orig Rst -1.54E+02

Tot/Cnt Uncert 2S Unit pCi/L 1.5E+02

Qu-Tracer MDC Yield al 3.53E+02 100.0

Spk Conc/ %Rec

Analy Method 906.0\_H3 LSC 5.00E-03

Aliq Size/

Date/Time Analyzed 12/11/2005 RPD/ UCL

**LCS** LCL/UCL Typ

BU

Н

R

5299563 H-3 BLK 10028-17-8

1.4E+02

L

D

05:12

STL Richland

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL). B Qual- Analyte was found in the associated laboratory blank above the MDC.

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

QC Type:

MDC

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

Moisture/Solids%\*:

HNM7J1AB

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/19/2005 12:56

RER/

UCL

Client Id:

NA

Matrix:

WATER

BLK

WATER

Sample On Date:

10/19/2005 **Received Date:** 

SAF Nbr

Contract Nbr MW6-SBB-A19981

Case Nbr

SAS Nbr

Suffix

Decant

**Distilled Volume** 

File Id

BW Н

R

Batch # / Analyt/ CAS# Qc Type 5299559 TC-99

Result/ Orig Rst 7.39E+00

Tot/Cnt Unit Uncert 2S pCi/L 5.1E+00 3.8E+00

**Test User** 

Qual

Tracer Yield 9.57E+00 100.0

Spk Conc/ %Rec

Analy Method

Aliq Size/ TC99\_ETVDSK 1.282E-01

Date/Time Analyzed 12/17/2005 RPD/ UCL

LCS

FSuffix RTyp

LCL/UCL Typ D

14133-76-7 BLK

12:06 L

Thursday, December 22, 2005

STL Richland QC Blank Report

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadiV\Rad\W04799.Edd, h:\Reportdb\edd\W04799.Edd, h:\Reportdb\edd\W04799.Edd

Lab Sample Id:HNM9P1ABSdg/Rept Nbr:W0479930860Collection Date:10/24/2005 11:17Client Id:NAMatrix:WATERWATERSample On Date:

Moisture/Solids%\*: QC Type: BLK Received Date: 10/24/2005

SAF Nbr Contract Nbr Test User Case Nbr SAS Nbr Suffix Decant Distilled Volume File Id FSuffix RTyp
MW6-SBB-A19981
BY H

Qu-Batch # / Analyt/ Result/ Tot/Cnt Tracer Spk Conc/ Analy Date/Time RPD/ RER/ LCS Aliq R CAS# MDC LCL/UCL Typ Qc Type Orig Rst Unit Uncert 2S al Yield %Rec Method Size/ Analyzed UCL UCL 5299573 ALPHA 1.16E-01 pCi/L 2.6E-01 U 5.39E-01 100.0 9310 ALPHAB 2.018E-01 12/05/2005 D BLK 12587-46-1 2.6E-01 07:49

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNM9V1AB

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/24/2005 13:51

Client Id:

NA

Matrix:

WATER

**WATER** 

Sample On Date:

Moisture/Solids%\*:

QC Type:

BLK

Received Date:

10/24/2005

SAF Nbr

**Contract Nbr** MW6-SBB-A19981 **Test User** Case Nbr SAS Nbr

Suffix

Decant

**Distilled Volume** 

File Id FSuffix RTyp

Batch # / Qc Type 5299576

BLK

Analyt/ CAS# **BETA** 12587-47-2

Result/ Orig Rst -1.70E-01

Tot/Cnt Unit Uncert 2S pCi/L 7.7E-01 7.7E-01

Qual MDC

Tracer Yield 1.60E+00 100.0

Spk Conc/ %Rec

Analy Method 9310 ALPHAB

Aliq Size/ 1.99E-01

Date/Time Analyzed 12/05/2005

RPD/ UCL

RER/ LCS LCL/UCL Typ UCL

D

Н

R

L 07:50

CA

STL Richland rptFeadRadEdd v3.68 U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

## STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNNAA1AB

Sdg/Rept Nbr: W04799

30860

**Collection Date:** 10/21/2005 10:55

Client Id:

NA

Matrix:

**WATER** 

Sample On Date:

Moisture/Solids%\*:

**WATER** QC Type:

Received Date:

Mois	Moisture/Solids%*:  SAF Nbr Contract Nbr				C	QC Type:	BLK			Recei	ved Date:	10/21/2	2005		
SAF		ontract Nbr /6-SBB-A19981	7	Test User	Case	Nbr SA	S Nbr	Suffix	Decant	Distilled Volume	File	e ld	***************************************	FSuffix I	RTyp H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R L Typ
5299583	BE-7	-4.35E-02	pCi/L	2.2E+01	U	4.08E+01			GAMMA_GS	2.5226E+00	11/28/2005				D
BLK	13966-02-4			2.2E+01						L	05:34				
5299583	CO-60	-1.69E+00	pCi/L	1.9E+00	U	2.97E+00			GAMMA_GS	2.5226E+00	11/28/2005				D
BLK	10198-40-0			1.9E+00						L	05:34				
5299583	CS-134	-1.33E+00	pCi/L		U	3.72E+00			GAMMA_GS	2.5226E+00	11/28/2005				D
BLK	13967-70-9			2.2E+00						L	05:34				
5299583	CS-137	1.64E+00	pCi/L		U	3.92E+00			GAMMA_GS	2.5226E+00	11/28/2005				D
BLK	10045-97-3			1.9E+00						L	05:34				
5299583	EU-152	2.13E+00	pCi/L		U	7.52E+00			GAMMA_GS	2.5226E+00					D
BLK	14683-23-9			3.8E+00						L	05:34				
5299583	EU-154	8.48E-01	pCi/L		U	8.02E+00			GAMMA_GS	2.5226E+00					D
BLK	15585-10-1			3.5E+00						L	05:34				
5299583	EU-155	1.34E+00	pCi/L		U	6.37E+00			GAMMA_GS	2.5226E+00					D
BLK	14391-16-3			3.5E+00						L	05:34				
5299583	K-40	-6.42E+01	pCi/L	3.7E+01	U	7.64E+01			GAMMA_GS	2.5226E+00					D
BLK	13966-00-2			3.7E+01						L	05:34				
5299583	RU-106	-8.16E+00	pCi/L		U	2.25E+01			GAMMA_GS	2.5226E+00	11/28/2005				D
BLK	13967-48-1			1.3E+01						L	05:34				
5299583	SB-125	-1.12E+00	pCi/L	4.5E+00	U	8.03E+00			GAMMA_GS	2.5226E+00	11/28/2005				D
BLK	14234-35-6			4.5E+00						L	05:34				

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNNE51AB

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/24/2005 11:17

Client Id:

SAF Nbr

Qc Type

NA

Matrix:

WATER

WATER

Sample On Date:

RPD/

UCL

File Id

Moisture/Solids%\*:

QC Type:

Case Nbr

al

BLK

Decant

**Received Date:** 

10/24/2005

MW6-SBB-A19981 Analyt/ Batch #/

Result/ CAS# **Orig Rst** 4.76E-01

**Contract Nbr** 

Tot/Cnt Uncert 2S Unit pCi/L 2.5E-01

**Test User** 

Qu-Tracer MDC Yield 4.23E-01 81.1

SAS Nbr

Spk Conc/ %Rec

Suffix

Analy Method SRISO SEP P

Aliq Size/ 1.0244E+00 11/20/2005

**Distilled Volume** 

Date/Time Analyzed

RER/ LCS UCL

LCL/UCL Typ

Н

FSuffix RTyp

CE

5299626 SR-90 10098-97-2 BLK

2.5E-01

13:33

D

Thursday, December 22, 2005 Lab Code: STLRL STL Richland QC Blank Report

FormatType: FEAD FormNbr: R VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id: HNNE71AB Sdg/Rept Nbr: W04799 30860 **Collection Date:** 10/20/2005 12:31

NA Client Id: Matrix: WATER WATER Sample On Date:

Moisture/Solids%\*: QC Type: **BLK Received Date:** 10/20/2005

SAF Nbr **Contract Nbr Test User** Suffix Case Nbr SAS Nbr Decant **Distilled Volume** File Id FSuffix RTyp Н

MW6-SBB-A19981 CG

Batch # / Result/ Tot/Cnt Analyt/ Spk Conc/ Qu-Tracer Analy Aliq Date/Time RPD/ RER/ LCS R CAS# MDC %Rec Method Qc Type Orig Rst Uncert 2S Yield LCL/UCL Typ Unit al Size/ Analyzed UCL UCL

5299629 I-129L 1.86E-01 pCi/L 1.5E-01 U 3.17E-01 96.8 1129LL SEP L 3.8701E+00 12/02/2005 D

15046-84-1 1.5E-01 BLK 21:53

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\V04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860,Edd

Lab Sample Id:

HNNE91AB

Sdg/Rept Nbr: W04799

30860

**Collection Date:** 10/21/2005 10:00

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date: 10/10/2005 08:56

Moisture/Solids%\*:

QC Type:

BLK

Received Date:

10/21/2005

SAF N		Contract Nbr W6-SBB-A19981	Тє	est User	Case N	br S	AS Nbr	Suffix	Decant	Distilled Volume	File	e Id	***************************************	FSuffix I	RТур Н
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R L Typ

5299630 C-14 14762-75-5 BLK

2.56E+01

pCi/L 5.5E+00

8.66E+00 100.0

C14 LSC

2.00E-01

12/08/2005

D

L 01:14

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

Moisture/Solids%\*:

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\\30860.Edd

Lab Sample Id:

HNM671CS

Sdg/Rept Nbr: W04799

30860

**Collection Date:** 10/24/2005 10:27

Client Id:

NA

Matrix: QC Type: WATER

BS

WATER

Sample On Date:

Received Date:

10/24/2005

						. , , , .									
SAF		ontract Nbr 6-SBB-A19981	7	Test User	Case	Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File	e ld		<b>FSuffix</b> BQ	RTyp H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/U	R CL Typ
5299557 <b>BS</b>	Uranium 7440-61-1	3.60E+01	ug/L	4.2E+00 4.2E+00		8.52E-0	2	3.69E+01 97.6	UTOT_KPA	2.46E-02 ML	12/08/2005 15:41			70 130	D

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNM671DS

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/24/2005 10:27

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type:

BS

Received Date:

10/24/2005

						, ,									
SAF		ontract Nbr 6-SBB-A19981	7	est User	Case	Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File	e ld		FSuffix BR	RTyp H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R CL Typ
5299557 <b>BS</b>	Uranium 7440-61-1	4.05E+00	ug/L	4.2E-01 4.2E-01		9.23E-0	2	3.95E+00 102.6	UTOT_KPA	2.27E-02 ML	12/08/2005 15:44			70 130	D

# STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNM701CS

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/24/2005 10:27

Client Id:

NA

Matrix:

**WATER** WATER

Sample On Date:

Moisture/Solids%\*:

QC Type:

BS

**Received Date:** 

10/24/2005

SAF Nbr

**Contract Nbr** MW6-SBB-A19981 **Test User** Case Nbr SAS Nbr

Suffix Decant

**Distilled Volume** 

File Id

RPD/

UCL

FSuffix RTyp BT Н

Batch #/ Analyt/ Qc Type CAS# 5299563 H-3

Result/ Orig Rst 2.68E+03

Tot/Cnt Unit **Uncert 2S** 2.8E+02 pCi/L

Qual MDC

Tracer Yield 3.60E+02 100.0

Spk Conc/ %Rec 2.81E+03

Analy Method 906.0\_H3\_LSC

Aliq Size/ 5.00E-03

Date/Time Analyzed 12/10/2005 RER/ UCL

LCS LCL/UCL Typ

R

70 D

BS 10028-17-8 2.3E+02

95.3

L 15:26 130

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860,Edd

Lab Sample Id:

HNM701EM

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/24/2005 10:27

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

10/24/2005

RPD/

UCL

Moisture/Solids%\*:

10028-17-8

QC Type:

BS

**Received Date:** 

SAF Nbr

Contract Nbr MW6-SBB-A19981 **Test User** Case Nbr SAS Nbr

Suffix

Decant **Distilled Volume**  File Id

FSuffix RTyp BV

Н

R

Batch #/ Analyt/ CAS# Qc Type 5299563 H-3

BS

Result/ Orig Rst 2.95E+03

Tot/Cnt Unit Uncert 2S pCi/L 2.9E+02 2.4E+02

Qu-MDC al 3.56E+02 100.0

Tracer Yield

Spk Conc/ %Rec 2.81E+03 105.0

Analy Method

Aliq Size/ 906.0 H3 LSC 5.00E-03 L

Date/Time Analyzed 12/11/2005 06:35

RER/ UCL

LCS LCL/UCL Typ

70 D 130

# STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNM7J1CS

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/19/2005 12:56

Client Id:

NA

Matrix:

**WATER** 

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type:

BS

Received Date:

10/19/2005

SAF		ontract Nbr 6-SBB-A19981	Т	est User	Case	Nbr S	AS Nbr	Suffix	Decant	Distilled Volume	File	e Id		<b>FSuffix</b> BX	RТур Н	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/U	_	R yp
5299559	TC-99	4.71E+02	pCi/L	3.2E+01		9.42E+00	100.0	5.34E+02	TC99_ETVDS	K 1.261E-01	12/17/2005			70	D	
BS	14133-76-7			1.2E+01				88.2	_	L	13:09			130		

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNM9P1CS

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/24/2005 11:17

Client Id:

NA

Matrix:

WATER

**WATER** 

Sample On Date:

Moisture/Solids%\*:

QC Type:

BS

**Received Date:** 

10/24/2005

SAF		ontract Nbr 6-SBB-A19981	Т	est User	Case	Nbr :	SAS Nbr	Suffix	Decant	Distilled Volume	File	e Id		FSuffix F BZ	RTyp H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R L Typ
5299573 <b>BS</b>	ALPHA 12587-46-1	2.32E+01	pCi/L	4.9E+00 1.6E+00		4.63E-0	1 100.0	2.24E+01 103.7	9310_ALPHAI	B 2.03E-01 L	12/05/2005 11:26			70 130	D

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\Fead\V\Rad\V\04799.Edd, h:\Reportdb\edd\Fead\V\Rad\\30860.Edd

Lab Sample Id:

HNM9V1CS

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/24/2005 13:51

Client Id:

NA

WATER Matrix:

**WATER** 

Sample On Date:

Moisture/Solids%\*:

QC Type:

BS

Received Date:

10/24/2005

SAF		Contract Nbr MW6-SBB-A19981		Test User		Case Nbr SA		Suffix	Decant Distilled Volume		File Id		FSuffix RTyp CB H		
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/U	R CL Typ
5299576 <b>BS</b>	BETA 12587-47-2	2.31E+01	pCi/L	3.4E+00 1.8E+00		1.79E+00	100.0	2.35E+01 98.2	9310_ALPHAI	B 1.944E-01 L	12/05/2005 07:50			70 130	D

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNNAA1CS

Sdg/Rept Nbr: W04799

30860

**Collection Date:** 10/21/2005 10:55

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type:

BS

Received Date:

10/21/2005

SAF Nbr Contract Nb MW6-SBB-A1		ontract Nbr 6-SBB-A19981	Test User		Case N	br SA	S Nbr	Suffix	Decant	Distilled Volume	File Id		FSuffix RTyp CD H		
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/U	R CL Typ
5299583 <b>BS</b>	CO-60 10198-40-0	2.68E+01	pCi/L	6.2E+00 6.2E+00	3	.96E+00		2.80E+01 95.9	GAMMA_GS	2.6555E+00 L	11/28/2005 05:34			70 130	D
5299583 <b>BS</b>	CS-137 10045-97-3	1.71E+01	pCi/L	4.4E+00 4.4E+00	3	.63E+00		1.92E+01 89.4	GAMMA_GS	2.6555E+00 L	11/28/2005 05:34			70 130	D
5299583 <b>BS</b>	EU-152 14683-23-9	5.59E+01	pCi/L	1.2E+01 1.2E+01	8	3.67E+00		5.73E+01 97.6	GAMMA_GS	2.6555E+00 L	11/28/2005 05:34			70 130	D

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

Moisture/Solids%\*:

10098-97-2

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNNE51CS

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/24/2005 11:17

Client Id:

NA

Matrix: QC Type:

WATER

BS

**WATER** 

Sample On Date:

**Received Date:** 

10/24/2005

SAF Nbr

**Contract Nbr** MW6-SBB-A19981 **Test User** Case Nbr SAS Nbr

Suffix

Decant

**Distilled Volume** 

File Id

CF Н

R

FSuffix RTyp

Batch #/ Analyt/ Qc Type CAS# 5299626 SR-90

BS

Result/ Orig Rst 1.64E+01

Tot/Cnt Unit Uncert 2S pCi/L 2.5E+00 8.1E-01

Qu-MDC al 5.45E-01

Tracer Yield 75.6

Spk Conc/ %Rec 1.47E+01 111.1

Analy Method SRISO SEP P

Aliq Size/ 9.225E-01 L

Date/Time Analyzed 11/20/2005 13:33

RPD/ RER/ UCL UCL

LCS LCL/UCL Typ 70 D 130

STL Richland rptFeadRadEdd v3.68 U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

### STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNNE71CS

Sdg/Rept Nbr: W04799

30860

**Collection Date:** 10/20/2005 12:31

Client Id:

NA

Matrix:

**WATER** 

WATER

Sample On Date:

Received Date:

10/20/2005

SAF Nbr **Contract Nbr** MW6-SBB-A19981

Moisture/Solids%\*:

**Test User** 

Case Nbr

Qu-

al

QC Type:

BS

Suffix Decant **Distilled Volume** 

Batch # / Analyt/ Qc Type CAS# 5299629 I-129L

Result/ Orig Rst 8.14E+00

Unit pCi/L 1.1E+00

Tot/Cnt Uncert 2S

MDC 3.80E-01 100.8

Tracer Spk Conc/ Yield %Rec 9.96E+00

Analy Method

Aliq Size/ 1129LL\_SEP\_L

Date/Time Analyzed 3.8462E+00 12/02/2005

RPD/ UCL

File Id

RER/ LCS UCL

LCL/UCL Typ D 70

FSuffix RTyp

Н

CH

BS 15046-84-1

1.1E+00

SAS Nbr

81.8

21:54

130

# STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNNE91CS

30860

Collection Date: 10/21/2005 10:00

Client Id:

NA

Sdg/Rept Nbr: W04799 Matrix:

WATER

BS

**WATER** 

Sample On Date: 10/10/2005 08:56

Moisture/Solids%\*:

QC Type:

Received Date:

10/21/2005

SAF		ntract Nbr S-SBB-A19981	T	Test User	Case	Nbr SA	S Nbr	Suffix	Decant	Distilled Volume	File	e ld		FSuffix CJ	RTyp H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R CL Typ
5299630	C-14	3.33E+01	pCi/L	5.8E+00		8.66E+00	100.0	4.49E+01	C14_LSC	2.00E-01	12/08/2005			70	D
RS	14762-75-5		-	4 6F+00				74.2		ı	01.57			130	

### STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HM6CN1HR

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/19/2005 12:56

Client Id:

B1DYV1

Matrix:

**WATER** 

**WATER** Sample On Date:

Moisture/Solids%\*:

QC Type:

Qu-

al

U

DUP

**Received Date:** 

10/19/2005

SAF Nbr A06-010

Contract Nbr MW6-SBB-A19981 Case Nbr

SAS Nbr

Suffix Decant

**Distilled Volume** 

File Id

FSuffix RTyp BE

Н

R

Batch # /

Result/

Tot/Cnt

Tracer MDC Yield

Spk Conc/ %Rec

Analy Method

Alia Size/

Date/Time RPD/ RER/ Analyzed UCL UCL 12/17/2005 1382.1 1.2

LCS

CAS# Qc Type 5299559 DUP

TC-99 14133-76-7

Analyt/

**Orig Rst** -1.60E+00 2.15E+00

Uncert 2S Unit pCi/L 4.5E+00 3.3E+00

**Test User** 

8.51E+00 100.0

TC99 ETVDSK 1.251E-01 L

01:42 20.0

3

LCL/UCL Typ D

STL Richland rptFeadRadEdd v3.68 U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

### STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HM9361GR

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/20/2005 12:31

Client Id:

B1F1D6

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type:

DUP

**Received Date:** 

10/20/2005

SAF Nbr S06-010

**Contract Nbr** MW6-SBB-A19981 Case Nbr

SAS Nbr

Suffix Decant **Distilled Volume** 

File Id

FSuffix RTyp BG Н

Batch #/

Qc Type

Analyt/ Result/ CAS# **Orig Rst** 

1.95E-01

Tot/Cnt Uncert 2S Unit pCi/L 1.5E-01

**Test User** 

Qu-MDC al U 3.19E-01

Tracer Spk Conc/ %Rec Yield

Analy Method I129LL SEP L

Aliq Size/ 3.8366E+00 12/02/2005

Date/Time Analyzed

RPD/ RER/ UCL UCL 1.2 101.9

LCS LCL/UCL Typ

R

5299629 I-129L DUP 15046-84-1

6.34E-02

1.5E-01

96.5

16:12

20.0 3 D

Thursday, December 22, 2005 Lab Code: STLRL STL Richland QC Duplicate Report FormNbr: R File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd FormatType: FEAD VersionNbr: 05 Lab Sample Id: HNE571ER Sdg/Rept Nbr: W04799 30860 Collection Date: 10/21/2005 10:00 Client Id: B1F193 Matrix: **WATER WATER** Sample On Date: 10/10/2005 08:56

Moisture/Solids%\*: QC Type: DUP Received Date: 10/21/2005

<b>SAF N</b> S06-01		ontract Nbr 6-SBB-A19981	T	est User	Case	Nbr S	AS Nbr	Suffix	Decant	Distilled Volume	File	ld		FSuffix RT BH	ур Н
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
5299630	C-14	1.43E+02	pCi/L	1.0E+01		8.66E+00	100.0		C14_LSC	2.00E-01	12/08/2005	4.2	8.0	1	D
DUP	14762-75-5	1.49E+02		7.0E+00						L	03:21	20.0	3		

### STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNE6F1FR

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/21/2005 10:55

Client Id:

B1F392

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type:

DUP

Received Date: 10/21/2005

<b>SAF I</b> 106-00		Contract Nbr W6-SBB-A19981	7	Test User	Case	Nbr S	SAS Nbr	Suffix	Decant	Distilled Volume	File	e Id		FSuffix RTyp BJ H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS R LCL/UCL Typ
5299583	BE-7	-7.71E+00	pCi/L	2.1E+01	U	3.70E+0	1		GAMMA_GS	2.537E+00	11/28/2005	0.0	0.5	D
DUP	13966-02-4	-1.52E+01		2.1E+01					<del></del>	L	07:19	20.0	3	
5299583	CO-60	4.82E-01	pCi/L	2.1E+00	U	4.36E+00	)		GAMMA_GS	2.537E+00	11/28/2005	0.0	0.9	D
DUP	10198-40-0	-8.14E-01		2.1E+00						L	07:19	20.0	3	
5299583	CS-134	2.70E-01	pCi/L	1.8E+00	U	3.55E+00	)		GAMMA_GS	2.537E+00	11/28/2005	189.0	0.2	D
DUP	13967-70-9	7.62E-03		1.8E+00						L	07:19	20.0	3	
5299583	CS-137	-1.17E+00	pCi/L	1.8E+00	U	3.02E+00	)		GAMMA_GS	2.537E+00	11/28/2005	0.0	0.4	D
DUP	10045-97-3	-1.70E+00		1.8E+00						L	07:19	20.0	3	
5299583	EU-152	-1.94E+00	pCi/L	4.3E+00	U	7.51E+00	)		GAMMA_GS	2.537E+00	11/28/2005	0.0	0.6	D
DUP	14683-23-9	-2.34E-01		4.3E+00						L	07:19	20.0	3	
5299583	EU-154	-2.81E+00	pCi/L	5.5E+00	U	9.46E+00	)		GAMMA_GS	2.537E+00	11/28/2005	0.0	0.5	D
DUP	15585-10-1	-7.72E-01		5.5E+00						L	07:19	20.0	3	
5299583	EU-155	3.81E+00	pCi/L	3.2E+00	U	6.20E+00	)		GAMMA_GS	2.537E+00	11/28/2005	85.6	1.	D
DUP	14391-16-3	1.53E+00		3.2E+00						L	07:19	20.0	3	
5299583	K-40	-1.29E+01	pCi/L	3.2E+01	U	7.12E+01	I		GAMMA_GS	2.537E+00	11/28/2005	0.0	1.2	D
DUP	13966-00-2	4.03E+01		3.2E+01						· L	07:19	20.0	3	
5299583	RU-106	-8.80E+00	pCi/L	1.8E+01	U	3.10E+01	Í		GAMMA_GS	2.537E+00	11/28/2005	0.0	8.0	D
DUP	13967-48-1	1.39E+00		1.8E+01						L	07:19	20.0	3	
5299583	SB-125	2.09E+00	pCi/L		U	8.06E+00	)		GAMMA_GS	2.537E+00	11/28/2005	74.6	0.4	Đ
DUP	14234-35-6	9.53E-01		4.1E+00						L	07:19	20.0	3	

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

### STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNH161GR

Sdg/Rept Nbr: W04799

30860

**Collection Date:** 10/24/2005 11:17

Client Id:

B1F356

Matrix:

WATER

**WATER** 

Sample On Date:

Moisture/Solids%\*:

QC Type:

DUP

**Received Date:** 

10/24/2005

	_														
SAF Nb 106-001		ntract Nbr 6-SBB-A19981	1	est User	Case	Nbr S	AS Nbr	Suffix	Decant I	Distilled Volume	File	e Id		FSuffix RT BK I	ур Н
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
5299573 A	ALPHA	7.96E-01	pCi/L	4.9E-01		6.65E-01	100.0		9310_ALPHAE	3 2.043E-01	12/05/2005	5.5	0.1	[	)
DUP 1	12587-46-1	8 41F-01	•	4 7F-01						L	07:49	20.0	3		

### STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNH161HR

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/24/2005 11:17

Client Id:

B1F356

Matrix:

**WATER** 

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type:

DUP

Received Date:

10/24/2005

<b>SAF 1</b> 106-00		ntract Nbr -SBB-A19981	T	est User	Case	Nbr SA	AS Nbr	Suffix	Decant	Distilled Volume	File	e ld		FSuffix I BL	RTyp H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R CL Typ
5299626	SR-90	3.67E+01	pCi/L	5.5E+00		4.65E-01	83.5		SRISO_SEP_	P 9.862E-01	11/20/2005	3.0	0.3		D
DUP	10098-97-2	3.78E+01		1.1E+00						L	13:33	20.0	3		

Thursday, December 22, 2005 STL Richland QC Duplicate Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\V\Rad\W04799.Edd, h:\Reportdb\edd\Fead\V\Rad\W04799.Edd, h:\Reportdb\edd\Fead\V\Rad\W04799.Edd

Lab Sample Id: HNH1P1JR Sdg/Rept Nbr: W04799 30860 Collection Date: 10/24/2005 10:27

Client Id: B1DYT7 Matrix: WATER WATER Sample On Date:

3.56E+02 100.0

Moisture/Solids%\*: QC Type: DUP Received Date: 10/24/2005

SAF Nbr **Contract Nbr Test User** Suffix **Distilled Volume** Case Nbr SAS Nbr Decant File Id FSuffix RTyp A06-010 MW6-SBB-A19981 ВМ Н Batch # / Analyt/ Result/ Tot/Cnt Qu-Spk Conc/ Analy Date/Time RPD/ RER/ LCS R Tracer Aliq Qc Type CAS# **Orig Rst** Unit Uncert 2S al MDC Yield %Rec Method Size/ Analyzed UCL UCL LCL/UCL Typ

906.0 H3 LSC

5.00E-03

L

12/11/2005

17:35

42.1

20.0

0.5

3

D

5299563 H-3

10028-17-8

DUP

1.76E+02

1.15E+02

pCi/L 1.7E+02

1.5E+02

U

### STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNH1P2HR

30860

Collection Date: 10/24/2005 10:27

Client Id:

B1DYT7

Sdg/Rept Nbr: W04799 Matrix:

WATER Sample On Date:

Moisture/Solids%\*:

QC Type:

**WATER** DUP

Received Date:

10/24/2005

<b>SAF</b> A06-0		ntract Nbr 6-SBB-A19981		Test User	Case	Nbr S	AS Nbr	Suffix	Decant	Distilled Volume	File	e Id		FSuffix RT BN	Гур Н
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
5299557	Uranium	2.78E+00	ug/L	2.8E-01		8.03E-02			UTOT_KPA	2.61E-02	12/08/2005	19.9	2.5	!	D
DUP	7440-61-1	2.28E+00		2.8E-01						MI	16:31	20.0	3		

rptFeadRadEdd v3.68

STL Richland QC Duplicate Report

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W04799.Edd, h:\Reportdb\edd\FeadIV\Rad\30860.Edd

Lab Sample Id:

HNH2C1FR

Sdg/Rept Nbr: W04799

30860

Collection Date: 10/24/2005 13:51

Lab Code: STLRL

Client Id:

B1F1C4

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%\*:

QC Type:

DUP

**Received Date:** 

10/24/2005

SAF Nbr S06-010

**Contract Nbr** 

Case Nbr

SAS Nbr

Decant

**Distilled Volume** 

FSuffix RTyp

MW6-SBB-A19981

Tot/Cnt

Tracer MDC

Spk Conc/ %Rec

Analy Method

Aliq Size/ Date/Time Analyzed

RPD/ RER/ UCL UCL

LCS

Н

R

Qc Type CAS# 5299576 BETA DUP 12587-47-2

Analyt/ Result/ Orig Rst 1.84E+01

Unit Uncert 2S pCi/L 2.9E+00

Qu-

al

Yield 2.22E+00 100.0

Suffix

9310 ALPHAB

1.868E-01

12/05/2005 10.6

File Id

0.9

LCL/UCL Typ D

ВО

Batch #/

1.65E+01

1.8E+00

**Test User** 

07:50 L 20.0 3 RQC050

#### Severn Trent Laboratories, Inc. WET CHEM BATCHSHEET

Run Date: 11/30/05 Time: 12:39:37

STL Richland

#### PRODUCTION FIGURES - WET CHEM

	AMPLE JMBER QC	RE-RUN MATRIX	RE-RUN OTHER		SC MBER	TOTAL HOURS	EXPANDED DELIVERABLE	
METHOD: QC BATCH #: PREP DATE: COMP DATE: USER:		METHOD 922	3 INITIAI PRE ANA	P <u>D</u>	<u>m</u>	DATA EI INIT: DATE		
Work Order	Lab Number		tured ysis	Exp. Del.	Analys Date		e ID:	#001
HM936-1-AC	J-5J210189-004	XX I 88	IZ 5I	Е	10-20	S B1F1I	06	1.0
HM936-1-AH	J-5J210189-004-X	XX I 88	IZ 5I	E		B1F1I	06 DUP	1.0
HNNFA-1-AA	J-5J260000-632-B	XX I 88	IZ 5I			INTRA	A-LAB BLANK	0
HNNFA-1-AC	J-5J260000-632-C	XX I 88	IZ 5I		$\rightarrow$	INTRA	A-LAB CHECK	10.9
4-4-4		Control	Limits				- Andrews	

(0-0)

PA 11.30.05

RQC050

#### Severn Trent Laboratories, Inc. WET CHEM BATCHSHEET

Run Date: 11/30/05 Time: 12:40:08

STL Richland

PRODUCTION FIGURES - WET CHEM

	AMPLE IMBER QC	RE-RUN MATRIX	RE-RUN OTHER			OTAL OURS	EXPANDED DELIVERABLE	
METHOD: QC BATCH #: PREP DATE: COMP DATE: USER:	IZ COLIFORM BY 5334372 11/30/05 10/26/05 KENITZEP	METHOD 922	INITIA PR	LS: EP <i>DW</i> AL <i>DW</i>	Į	DATA ENT INITIA DATE _		
Work Order	Lab Number		tured ysis	Exp. Del.	Analysis Date	Sample	e ID:	# Col
HNH18-1-AC	J-5J250145-001	XX I 88	IZ 5I	E	10-24-05	B1F1C5	ò	0
HNH2C-1-AC	J-5J250145-002	XX I 88	IZ 5I	E		B1F1C4	Į.	0
HNH2C-1-AG	J-5J250145-002-X	XX I 88	IZ 5I	E		B1F1C4	DUP	O
HQ5L2-1-AA	J-5K300000-372-B	XX I 88	IZ 5I			INTRA-	LAB BLANK	0
HQ5L2-1-AC	J-5K300000-372-C	XX I 88	IZ 5I		$\rightarrow$	INTRA-	LAB CHECK	7.4
		Control	Limits					
			0.)					

(0-0)

PA 11-30-08



### Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

12/6/2005 8:53:52 AM

Lot No., Due Date:

J5J200181,J5J200184,J5J210189,J5J220210,J5J250137; 12/08/2005

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 5299629; RGAMLEPS Gamma by LEPS

SDG. Matrix:

W04799: WATER

SDG, Matrix:	W04799; WATER			
1.0 COC 1.1 Is the ICOC page co	emplete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes	No	N/A
2.0 QC Batch				
	stailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes	No	N/A
2.2 Are the QC appropria	ate for the analysis included in the batch?	Yes	No	N/A
2.3 Is the Analytical Batc	ch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
2.4 Does the Worksheet	ts include a Tracer Vial label for each sample?	Yes	No	N/A
3.0 QC & Samples				
3.1 Is the blank results, y	yield, and MDA within contract limits?	Yes	No	N/A
3.2 Is the LCS result, yie	eld, and MDA within contract limits?	Yes	No	N/A
3.3 Are the MS/MSD res	sults, yields, and MDA within contract limits?	Yes	No	N/A
3.4 Are the duplicate res	sult, yields, and MDAs within contract limits?	Yes	No	N/A
3.5 Are the sample yield	s and MDAs within contract limits?	Yes	No	N/A
4.0 Raw Data 4.1 Were results calculat	ted in the correct units?	* Yeş	No	N/A
1.2 Were analysis volum		$\checkmark$		N/A
+.2 Were analysis volum	les entered correctly:	Yes	NO	· IN/A
4.3 Were Yields entered	correctly?	Yes	No	N/A
4.4 Were spectra review	red/meet contractual requirements?	Yes	No	N/A
1.5 Were raw counts rev	riewed for anomalies?	Yes	No	N/A
5.0 Other	nces included and noted?	Yes	Nο	NI/Δ⁄
				V
5.2 Are all required forms		Yes	No	N/A
5.3 Was the correct meth	nodology used?	Yes	No	N/A
5.4 Was transcription ch	ecked?	Yes	No	N/A
5.5 Were all calculations	s checked at a minimum frequency?	Yes	No	N/A
5.6 Are worksheet entrie	s complete and correct?	Yes	No	N/A
6.0 Comments on any No	o response:	**		
. Jei — A WOR II COLUMNIA C. OO WAY ME	ente de la company de la compa			

STL Richland

QAS\_RADCALCv4.8.15

First Level Review



QC Batch Number:	520	70	1620	(

	Yes (√)	No (√)	N/A (√)
A. Sample Analysis	-		
. Are the sample yields within acceptance criteria?	1		
. Is the sample Minimum Detectable Activity < the Contract			•
Detection Limit?	lum		
. Are the correct isotopes reported?	interpretation of the second		
B. QC Samples			
. Is the Minimum Detectable Activity for the blank result ≤ the	and the same of th	1	
Contract Detection Limit?	The state of the s		
. Does the blank result meet the Contract criteria?			
. Is the blank result < the Contract Detection Limit?	authorite to make the same to		
. Is the blank result > the Contract Detection Limit but the sample			
esult < the Contract Detection Limit?			
. Is the LCS recovery with contract acceptance criteria?	1		
. Is the LCS Minimum Detectable Activity \(\leq \) the Contract Detection			
imit?	Server and the server		i
. Do the MS/MSD results and yields meet acceptance criteria?	1		5.000
. Do the duplicate sample results and yields meet acceptance			
riteria?	L		
C. Other			
. Are all Nonconformances included and noted?			i
. Are all required forms filled out?	-		
. Was the correct methodology used?	- Lander		
. Was transcription checked?	6-market minu-		
. Were all calculations checked at a minimum frequency?	and the same of th		
. Were units checked?	SIMPLE		· · · · · · · · · · · · · · · · · · ·
. Were units checked?  Comments on any "No" response:	sufference of the sufference o		
		W-12	
	<u>,</u>		



# Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

11/29/2005 1:43:03 PM

Page 1

Lot No., Due Date:

QAS RADCALCv4.8.15

J5J220219,J5J250143; 12/08/2005

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 5299583; RGAMMA Gamma by GER

SDG, Matrix: W0

W04799; WATER

SDG, Matı	ix: W04799; WATER			
<b>1.0 COC</b> 1.1 Is the IC	COC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yeş	No	N/A
skina Sankisa hakustania nisatawa waka waka		V	*******	in the Sapular cases
2.0 QC Ba 2.1 Do the	Purpose (Potalled Deposits include a selected as all the selected as all the selected as a selected	Yeş	No	N/A
2.2 Are the	QC appropriate for the analysis included in the batch?	Yeş	No	N/A
2.3 Is the A	nalytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
2.4 Does th	e Worksheets include a Tracer Vial label for each sample?	Yes	No	N/A
3.0 QC &	Samples			
		Yes	No	N/A
3.2 Is the L	CS result, yield, and MDA within contract limits?	Yeş	No	N/A
3.3 Are the	MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A
3.4 Are the	duplicate result, yields, and MDAs within contract limits?	Yes	No	N/A
3.5 Are the	sample yields and MDAs within contract limits?	Yes	No	N/A
<b>4.0 Raw D</b> 4.1 Were re		Yeş	No	N/A
4.2 Were a	nalysis volumes entered correctly?	V Yeş	No	N/A
4.3 Were Y	elds entered correctly?	Yes	No	N/A
4.4 Were s	pectra reviewed/meet contractual requirements?	Yeş	No	₩ N/A
4.5 Were ra	w counts reviewed for anomalies?	Yes	No	N/A
5.0 Other		<b>W</b>		
	onconformances included and noted?	Yes	No	N/A
5.2 Are all r	equired forms filled out?	Yes	No	N/A
5.3 Was the	correct methodology used?	Yes	No	N/A
5.4 Was tra	nscription checked?	Yes	No	N/A
5.5 Were a	calculations checked at a minimum frequency?	Yes	No	N/A
5.6 Are wor	ksheet entries complete and correct?	Yes	No	N/A
6.0 Comme	nts on any No response:		A constant property.	CONTROLOGICAL
First Leve	Review Date $1/29/05$			
STL Richland		Paga		<del></del>



QC Batch Number:	520	19	58	3	

Review Item	Yes (√)	No (√)	$N/A(\sqrt{)}$
A. Sample Analysis			1
1. Are the sample yields within acceptance criteria?			ie
2. Is the sample Minimum Detectable Activity < the Contract			•
Detection Limit?	L		
3. Are the correct isotopes reported?	S. market and the same of the		<u> </u>
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the			
Contract Detection Limit?	. 6		
2. Does the blank result meet the Contract criteria?	· American		
3. Is the blank result < the Contract Detection Limit?			
4. Is the blank result > the Contract Detection Limit but the sample			<del>                                     </del>
result < the Contract Detection Limit?		-	6
5. Is the LCS recovery with contract acceptance criteria?	-		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection			
Limit?	independent		
8. Do the MS/MSD results and yields meet acceptance criteria?			-
9. Do the duplicate sample results and yields meet acceptance			
criteria?	E.		
C. Other			
1. Are all Nonconformances included and noted?			L
2. Are all required forms filled out?	1		
3. Was the correct methodology used?	i.		
4. Was transcription checked?	GO-SERVENIA STATE OF THE STATE		
5. Were all calculations checked at a minimum frequency?	Contraction of the Contraction o		
6. Were units checked?			
Comments on any "No" response:			
			,
t .			
Second Level Review:	alangunumumumumum 1	Date: _	12/21



# Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

12/7/2005 9:44:27 AM

Lot No., Due Date:

J5J200181,J5J200184,J5J210189,J5J220210,J5J220219,J5J250143,J5J250145,J5J250137;

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 5299573; RALPHA-A Alpha by GPC-Am

SDG, Matrix:

W04799; WATER

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?  Yes No 2.2 Are the QC appropriate for the analysis included in the batch?  Yes No 2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?  Yes No 3.0 QC & Samples 3.1 Is the blank results, yield, and MDA within contract limits?  Yes No 3.2 Is the LCS result, yield, and MDA within contract limits?  Yes No 3.3 Are the MS/MSD results, yields, and MDA within contract limits?  Yes No 3.4 Are the duplicate result, yields, and MDAs within contract limits?  Yes No 3.5 Are the sample yields and MDAs within contract limits?  Yes No 4.0 Raw Data 4.1 Were results calculated in the correct units?  Yes No 4.2 Were analysis volumes entered correctly?  Yes No 4.3 Were Yields entered correctly?  Yes No 4.5 Were raw counts reviewed/meet contractual requirements?  Yes No 5.0 Other 5.1 Are all nonconformances included and noted?  Yes No 5.2 Are all required forms filled out?  Yes No 5.3 Was the correct methodology used?  Yes No 5.5 Were all calculations checked at a minimum frequency?  Yes No 5.6 Are worksheet entries complete and correct?  Yes No	SD	G, Matrix. WU4799; WATER			
2.2 Are the QC appropriate for the analysis included in the batch? 2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? 2.4 Does the Worksheets include a Tracer Vial label for each sample? 2.5 No. 2.4 Does the Worksheets include a Tracer Vial label for each sample? 3.0 QC & Samples 3.1 Is the blank results, yield, and MDA within contract limits? 3.2 Is the LCS result, yield, and MDA within contract limits? 3.3 Are the MS/MSD results, yields, and MDA within contract limits? 3.4 Are the duplicate result, yields, and MDAs within contract limits? 3.5 Are the sample yields and MDAs within contract limits? 3.6 Are the sample yields and MDAs within contract limits? 3.7 Yes No. 3.8 Are the sample yields and most within contract limits? 3.9 Were analysis volumes entered correctly? 3.9 No. 3.0 Were raw counts reviewed/meet contractual requirements? 3.9 Were raw counts reviewed for anomalies? 3.9 Were raw counts reviewed for anomalies? 3.9 No. 3.0 Other 3.9 Was the correct methodology used? 3.9 Was the correct methodology used? 3.9 Was transcription checked? 3.9 Was transcription checked? 3.9 Was transcription checked? 3.9 Were all calculations checked at a minimum frequency? 3.0 Were all calculations checked at a minimum frequency?	<b>1.0</b> 1.1	COC Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yeş	No	N/A
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?  Yes No 2.2 Are the QC appropriate for the analysis included in the batch?  Yes No 2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?  Yes No 2.4 Does the Worksheets include a Tracer Vial label for each sample?  Yes No 3.0 QC & Samples 3.1 Is the blank results, yield, and MDA within contract limits?  Yes No 3.2 Is the LCS result, yield, and MDA within contract limits?  Yes No 3.3 Are the MS/MSD results, yields, and MDA within contract limits?  Yes No 3.4 Are the duplicate result, yields, and MDAs within contract limits?  Yes No 3.5 Are the sample yields and MDAs within contract limits?  Yes No 4.0 Raw Data 4.1 Were results calculated in the correct units?  Yes No 4.2 Were analysis volumes entered correctly?  Yes No 4.3 Were yields entered correctly?  Yes No 4.5 Were raw counts reviewed/meet contractual requirements?  Yes No 5.6 Were raw counts reviewed for anomalies?  Yes No 5.7 Are all required forms filled out?  Yes No 5.8 Was the correct methodology used?  Yes No 5.9 Were all calculations checked at a minimum frequency?  Yes No 5.9 Were all calculations checked at a minimum frequency?  Yes No 5.9 Were all calculations checked at a minimum frequency?  Yes No 5.9 Were all calculations checked at a minimum frequency?  Yes No	2 N	OC Batch	- <b>-</b>		S
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?  Yes No. 2.4 Does the Worksheets include a Tracer Vial label for each sample?  3.0 QC & Samples 3.1 Is the blank results, yield, and MDA within contract limits?  Yes No. 3.2 Is the LCS result, yield, and MDA within contract limits?  Yes No. 3.3 Are the MS/MSD results, yields, and MDA within contract limits?  Yes No. 3.4 Are the duplicate result, yields, and MDAs within contract limits?  Yes No. 3.5 Are the sample yields and MDAs within contract limits?  Yes No. 3.6 Were results calculated in the correct units?  Yes No. 4.0 Raw Data 1.1 Were results calculated in the correct units?  Yes No. 4.0 Raw Data 1.1 Were results calculated on the correct units?  Yes No. 4.0 Raw Data 1.1 Were results calculated on the correct units?  Yes No. 4.0 Raw Data 1.1 Were results calculated in the correct units?  Yes No. 5.0 Were analysis volumes entered correctly?  Yes No. 5.1 Are all nonconformances included and noted?  Yes No. 5.2 Are all required forms filled out?  Yes No. 5.3 Was the correct methodology used?  Yes No. 5.4 Was transcription checked?  Yes No. 5.5 Were all calculations checked at a minimum frequency?  Yes No. 5.6 Are worksheet entries complete and correct??  Yes No. 5.6 Are worksheet entries complete and correct?	2.1	Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes	No	N/A
No. OC & Samples  1.1 Is the blank results, yield, and MDA within contract limits?  2.2 Is the LCS result, yield, and MDA within contract limits?  3.3 Are the MS/MSD results, yields, and MDA within contract limits?  4.4 Are the duplicate result, yields, and MDAs within contract limits?  4.5 Are the sample yields and MDAs within contract limits?  5.6 Are the sample yields and MDAs within contract limits?  6.7 Are the sample yields and MDAs within contract limits?  7.8 No. No. No. O Raw Data  7. Were results calculated in the correct units?  8. Yes No. Were analysis volumes entered correctly?  9. Yes No. Were spectra reviewed/meet contractual requirements?  9. Yes No. Were raw counts reviewed for anomalies?  9. Yes No. O Other  1. Are all nonconformances included and noted?  9. Yes No. Was the correct methodology used?  9. Yes No. Was transcription checked?  9. Yes No. Were all calculations checked at a minimum frequency?  9. Yes No. Were all calculations checked at a minimum frequency?  9. Yes No. No. Were all calculations checked at a minimum frequency?  9. Yes No. No. Were all calculations checked at a minimum frequency?  9. Yes No. No. Were all calculations checked at a minimum frequency?  9. Yes No.	2.2	Are the QC appropriate for the analysis included in the batch?	Yes	No	N/A
Substitute of the blank results, yield, and MDA within contract limits?  Yes No. 2.2 Is the LCS result, yield, and MDA within contract limits?  Yes No. 3.3 Are the MS/MSD results, yields, and MDA within contract limits?  Yes No. 4.4 Are the duplicate result, yields, and MDAs within contract limits?  Yes No. 5.5 Are the sample yields and MDAs within contract limits?  Yes No. 6.6 Are with earning of the correct limits?  Yes No. 7.1 Were results calculated in the correct units?  Yes No. 8.2 Were analysis volumes entered correctly?  Yes No. 9.3 Were Yields entered correctly?  Yes No. 9.4 Were spectra reviewed/meet contractual requirements?  Yes No. 9.5 Were raw counts reviewed for anomalies?  Yes No. 9.6 Other  1.1 Are all required forms filled out?  Yes No. 9.7 Yes No. 9.8 Was the correct methodology used?  Yes No. 9.8 Was transcription checked?  Yes No. 9.9 Were all calculations checked at a minimum frequency?  Yes No. 9.9	2.3	Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
No 1.0 Is the blank results, yield, and MDA within contract limits? 1.1 Is the LCS result, yield, and MDA within contract limits? 1.2 Is the LCS result, yield, and MDA within contract limits? 1.3 Are the MS/MSD results, yields, and MDA within contract limits? 1.4 Are the duplicate result, yields, and MDAs within contract limits? 1.5 Are the sample yields and MDAs within contract limits? 1.6 Raw Data 1.7 Were results calculated in the correct units? 1.8 Were analysis volumes entered correctly? 1.9 No 1.9 Were yields entered correctly? 1.9 No 1.9 Were spectra reviewed/meet contractual requirements? 1.1 Were results calculated in the correct units? 1.2 Were analysis volumes entered correctly? 1.3 Were yields entered correctly? 1.4 Were spectra reviewed/meet contractual requirements? 1.5 Were raw counts reviewed for anomalies? 1.6 Are all required forms filled out? 1.7 Are all nonconformances included and noted? 1.8 Was the correct methodology used? 1.9 No 1.9 Was transcription checked? 1.9 No 1.9 Were all calculations checked at a minimum frequency? 1.1 Are all calculations checked at a minimum frequency? 1.1 Are all calculations checked at a minimum frequency? 1.2 No 1.3 Were all calculations checked at a minimum frequency? 1.1 Are worksheet entries complete and correct? 1.1 Are worksheet entries complete and correct? 1.2 No 1.3 Were very the base of the minimum frequency? 1.4 Were very hor worksheet entries complete and correct? 1.5 Were all calculations checked at a minimum frequency? 1.7 Yes No 1.8 No 1.9 No	2.4	Does the Worksheets include a Tracer Vial label for each sample?	Yes	No	N/A
No 3.3 Are the MS/MSD results, yields, and MDA within contract limits?  Yes No 3.4 Are the duplicate result, yields, and MDAs within contract limits?  Yes No 3.5 Are the sample yields and MDAs within contract limits?  Yes No 4.6 Raw Data 1.1 Were results calculated in the correct units?  Yes No 1.2 Were analysis volumes entered correctly?  Yes No 1.3 Were Yields entered correctly?  Yes No 1.4 Were spectra reviewed/meet contractual requirements?  Yes No 1.5 Were raw counts reviewed for anomalies?  Yes No 3.0 Other 3.1 Are all nonconformances included and noted?  Yes No 3.2 Are all required forms filled out?  Yes No 3.3 Was the correct methodology used?  Yes No 3.4 Was transcription checked?  Yes No 3.5 Were all calculations checked at a minimum frequency?  Yes No 3.6 Are worksheet entries complete and correct?  Yes No			Yes	No	N/A
3.4 Are the duplicate result, yields, and MDAs within contract limits?  3.5 Are the sample yields and MDAs within contract limits?  3.6 Are the sample yields and MDAs within contract limits?  3.7 Yes No	3.2	Is the LCS result, yield, and MDA within contract limits?	Yes	No	N/A
3.5 Are the sample yields and MDAs within contract limits?  4.0 Raw Data 4.1 Were results calculated in the correct units?  4.2 Were analysis volumes entered correctly?  4.3 Were Yields entered correctly?  4.4 Were spectra reviewed/meet contractual requirements?  4.5 Were raw counts reviewed for anomalies?  4.6 Vere raw counts reviewed for anomalies?  5.1 Are all nonconformances included and noted?  5.2 Are all required forms filled out?  5.3 Was the correct methodology used?  5.4 Was transcription checked?  5.5 Were all calculations checked at a minimum frequency?  5.6 Are worksheet entries complete and correct?  7 Yes No	3.3	Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A
4.0 Raw Data 4.1 Were results calculated in the correct units? 4.2 Were analysis volumes entered correctly? 4.3 Were Yields entered correctly? 4.4 Were spectra reviewed/meet contractual requirements? 4.5 Were raw counts reviewed for anomalies? 5.0 Other 5.1 Are all nonconformances included and noted? 5.2 Are all required forms filled out? 5.3 Was the correct methodology used? 5.4 Was transcription checked? 5.5 Were all calculations checked at a minimum frequency? 5.6 Are worksheet entries complete and correct? 5.7 Yes No	3.4	Are the duplicate result, yields, and MDAs within contract limits?	Yes	No	N/A
No 1.2 Were analysis volumes entered correctly? 1.3 Were Yields entered correctly? 1.4 Were spectra reviewed/meet contractual requirements? 1.5 Were raw counts reviewed for anomalies? 1.6 Are worksheet entries complete and correct? 1.7 Were results calculated in the correctly? 1.8 No 1.9 Were analysis volumes entered correctly? 1.9 No 1.1 Were spectra reviewed/meet contractual requirements? 1.1 Were spectra reviewed/meet contractual requirements? 1.2 Ves No 1.3 Were raw counts reviewed for anomalies? 1.4 Ves No 1.5 Were all nonconformances included and noted? 1.6 No 1.7 Ves No 1.7 Ves No 1.8 Was the correct methodology used? 1.9 Ves No 1.9 Were all calculations checked? 1.9 No 1.	3.5	Are the sample yields and MDAs within contract limits?	Yes	No	N/A
No 1.3 Were Yields entered correctly? 1.4 Were spectra reviewed/meet contractual requirements? 1.5 Were raw counts reviewed for anomalies? 1.6 Other 1.7 Are all nonconformances included and noted? 1.8 Yes No 1.9 Are all required forms filled out? 1.9 Yes No 1.9 Was the correct methodology used? 1.9 Was transcription checked? 1.9 Were all calculations checked at a minimum frequency? 1.9 No 1.	1.0 1.1	Raw Data Were results calculated in the correct units?	Yeş	No	N/A
No 1.4 Were spectra reviewed/meet contractual requirements?  Yes No 1.5 Were raw counts reviewed for anomalies?  No 1.6 Other 1.6 Are all nonconformances included and noted?  Yes No 1.7 Are all required forms filled out?  Yes No 1.8 Was the correct methodology used?  Yes No 1.9 Were all calculations checked at a minimum frequency?  Yes No 1.9 Were all calculations checked and correct?  Yes No 1.9 No 1.9 No 1.9 Are worksheet entries complete and correct?	1.2	Were analysis volumes entered correctly?	Yes	No	N/A
No Other  1. Are all nonconformances included and noted?  2. Are all required forms filled out?  3. Was the correct methodology used?  3. Was transcription checked?  3. Were all calculations checked at a minimum frequency?  3. Are worksheet entries complete and correct?  3. Yes No  3. Yes No  3. Yes No  3. Was transcription checked?  4. Yes No	1.3	Were Yields entered correctly?	Yes	No	N/A
5.0 Other 5.1 Are all nonconformances included and noted?  5.2 Are all required forms filled out?  5.3 Was the correct methodology used?  5.4 Was transcription checked?  5.5 Were all calculations checked at a minimum frequency?  5.6 Are worksheet entries complete and correct?  Yes No	1.4	Were spectra reviewed/meet contractual requirements?	Yes	No	N/A
Are all nonconformances included and noted?  Yes No  Are all required forms filled out?  No  Was the correct methodology used?  Was transcription checked?  Were all calculations checked at a minimum frequency?  Yes No  Are worksheet entries complete and correct?  Yes No	1.5	Were raw counts reviewed for anomalies?	Yes	No	N/A
No	<b>5.0</b> 5.1	Other Are all nonconformances included and noted?	Yes	No	N/A
No N	5.2	Are all required forms filled out?	Yes	No	N/A
No N	5.3	Was the correct methodology used?	Yes	No	N/A
i.6 Are worksheet entries complete and correct?  Yes No	5.4	Was transcription checked?	Yes	No	N/A
	5.5	Were all calculations checked at a minimum frequency?	Yes	No	N/A
5.0 Comments on any No response:	6.6	Are worksheet entries complete and correct?	Yes	No	N/A
	6.0	Comments on any No response:	, <del>-</del>		

First Level Review

an anderson

Date 12-7-05



	5209572	
QC Batch Number:	5299513	

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?			-
2. Is the sample Minimum Detectable Activity < the Contract			
Detection Limit?	L		
3. Are the correct isotopes reported?	Georgian		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the	- SETTE VARIANTE VARIANTE		
Contract Detection Limit?			
2. Does the blank result meet the Contract criteria?	Single-Market Control		
3. Is the blank result < the Contract Detection Limit?	SEPTEMBER STATE OF THE		
4. Is the blank result > the Contract Detection Limit but the sample	1	•	
result < the Contract Detection Limit?			6
5. Is the LCS recovery with contract acceptance criteria?	- tom		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection	THE STATE OF THE S		
Limit?	Comme	7.4	
8. Do the MS/MSD results and yields meet acceptance criteria?			L
9. Do the duplicate sample results and yields meet acceptance			
criteria?	L		
C. Other			
1. Are all Nonconformances included and noted?			la l
2. Are all required forms filled out?	L		
3. Was the correct methodology used?	- Control Control		
4. Was transcription checked?	Comment		
5. Were all calculations checked at a minimum frequency?			
6. Were units checked?	Carrier Contract		

Second Level Review: Odle O Date: 12/21/05



### Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

12/7/2005 9:45:10 AM

Lot No., Due Date:

J5J200181,J5J200184,J5J210189,J5J220217,J5J220210,J5J220219,J5J250143,J5J250145,J5J2

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 5299576; RBETA-SR Beta by GPC-Sr/Y

SDG Matrix

SDG, Matrix:	W04799;	WATER			
1.0 COC 1.1 Is the ICOC page complete; in	ncludes all a	applicable analysis, dates, SOP numbers, and revisions?	:9	No	N/A
<b>2.0 QC Batch</b> 2.1 Do the Summary/Detailed Re	ports includ	e a calculated result for each sample listed on the QC Batch Sheet?	:9	No	N/A
2.2 Are the QC appropriate for the	e analysis ir	ncluded in the batch?	25/	No	N/A
2.3 Is the Analytical Batch Works	heet comple	ete; includes as appropriate, volumes, count times, etc?	9	No	N/A
2.4 Does the Worksheets include	a Tracer Vi	ial label for each sample?	s	No	N/A
3.0 QC & Samples 3.1 Is the blank results, yield, and	I MDA withir	n contract limits?	) }		N/A
3.2 Is the LCS result, yield, and N	NDA within c	contract limits?	9	No	N/A
3.3 Are the MS/MSD results, yield	ds, and MDA	A within contract limits?	S	No	N/A
3.4 Are the duplicate result, yields	s, and MDAs	s within contract limits?	:9	No	N/A
3.5 Are the sample yields and MD	As within c	ontract limits?	s	No	N/A
I.0 Raw Data	correct uni	ts?	) )	No.	N/A
1.2 Were analysis volumes entere			1		N/A
4.3 Were Yields entered correctly					
					N/A
4.4 Were spectra reviewed/meet		·			N/A
1.5 Were raw counts reviewed for	r anomalies'	?	9	No	N/A
5.0 Other 5.1 Are all nonconformances inclu	uded and no	yee	: <b>9</b> : [	No	N/A
5.2 Are all required forms filled ou	ıt?	Ye	:5 l	No	N/A
5.3 Was the correct methodology	used?	Ye	9	No	N/A
5.4 Was transcription checked?		Ye	· ·9	No	N/A
5.5 Were all calculations checked	l at a minim	um frequency?	9	No	N/A
5.6 Are worksheet entries comple	ete and corr	rect?	9	No	N/A
6.0 Comments on any No respons See NCM.	se:	07/07	r		

STL Richland

First Level Review

Page 1 QAS\_RADCALCv4.8.15

Jam anderson



|--|

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	***************************************		
2. Is the sample Minimum Detectable Activity < the Contract		/	•
Detection Limit?	-	-	
3. Are the correct isotopes reported?	L		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the			
Contract Detection Limit?			`
2. Does the blank result meet the Contract criteria?	i de la companya de l		
3. Is the blank result < the Contract Detection Limit?	Constitution		
4. Is the blank result > the Contract Detection Limit but the sample			
result < the Contract Detection Limit?			-
5. Is the LCS recovery with contract acceptance criteria?	Lum		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection	and the state of t		
Limit?			
8. Do the MS/MSD results and yields meet acceptance criteria?			6
9. Do the duplicate sample results and yields meet acceptance			
criteria?	· Sauce		
C. Other	1 marian		
1. Are all Nonconformances included and noted?			
2. Are all required forms filled out?	6		
3. Was the correct methodology used?	L		
4. Was transcription checked?	, specimen		
5. Were all calculations checked at a minimum frequency?	Experience representation		
6. Were units checked?	September 1987 September 1987	7	·

c. Onici	1 manual	1		
1. Are all Nonconformances included and noted?				
2. Are all required forms filled out?	6			
3. Was the correct methodology used?	Cumum			
4. Was transcription checked?				
5. Were all calculations checked at a minimum frequency?	Verterentiment			
6. Were units checked?	The state of the s	,		
Comments on any "No" response: BIDYR6 ac	hivity	7 mdA	> CRDL	
	′			
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		· · · · · · · · · · · · · · · · · · ·		
Second Level Review die	November of the Control of the Contr	Date: _	12/21/0	5
•				

# Clouseau Nonconformance Memo



NCM #: 10-07107

NCM Initiated By: Pam Anderson Date Opened: 12/07/2005

Date Closed:

Classification: Anomaly

Status: GLREVIEW

Production Area: Environmental - Sep

Tests: Beta by GPC-Sr/Y

Lot #'s (Sample #'s): J5J200181 (1),

QC Batches: 5299576

Nonconformance: MDA not met

Subcategory: Sample size reduced due to high residue mass

### **Problem Description / Root Cause**

Name Date Description

Pam Anderson 12/07/2005 Sample HM6AF1AD does not meet CRDL due to high dissolved solids in the sample.

The sample was counted for the maximum time.

Corrective Action

NameDateCorrective ActionPam Anderson12/07/2005None at this time.

**Client Notification Summary** 

Client Project Manager Notified Response How Notified Note

Response Note

Quality Assurance Verification

<u>Verified By</u> <u>Due Date</u> <u>Status</u> <u>Notes</u>

This section not yet completed by QA.

Approval History

<u>Date Approved By Position</u>

Date Printed: 12/7/2005 Page 1 of 1



# Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

11/23/2005 7:43:06 AM

Lot No., Due Date:

J5J250143; 12/08/2005

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 5299626; RSR85907 Sr-85/90 by GPC-7

SDG, Matrix: W04799; WATER

SDG, Matrix:	W04799; WATER			
1.0 COC 1.1 Is the ICOC page com	plete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes	No	N/A
<b>2.0 QC Batch</b> 2.1 Do the Summary/Deta	iled Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yeş	No	N/A
2.2 Are the QC appropriat	e for the analysis included in the batch?	Yes	No	N/A
2.3 Is the Analytical Batch	Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
2.4 Does the Worksheets	include a Tracer Vial label for each sample?	Yes	No	N/A
3.0 QC & Samples 3.1 Is the blank results, yie	eld, and MDA within contract limits?	Yes	No	N/A
3.2 Is the LCS result, yield	I, and MDA within contract limits?	Yeş	No	N/A
3.3 Are the MS/MSD resul	ts, yields, and MDA within contract limits?	Yes	No	N/A
3.4 Are the duplicate resul	lt, yields, and MDAs within contract limits?	Yes	No	N/A
3.5 Are the sample yields	and MDAs within contract limits?	Yes	No	N/A
1.0 Raw Data 1.1 Were results calculate	d in the correct units?	Yeş	No	N/A
4.2 Were analysis volume	s entered correctly?	Yes	No	N/A
1.3 Were Yields entered c	orrectly?	Yes	No	N/A
, , , , , , , , , , , , , , , , , , ,	d/meet contractual requirements?	Yes	No	N/A
1.5 Were raw counts revie	wed for anomalies?	Yes	No	N/A
5.0 Other 5.1 Are all nonconformanc	es included and noted?	Yes	No	N/A
5.2 Are all required forms t	filled out?	Yes	No	N/A
5.3 Was the correct metho	odology used?	Yes	No	N/A
6.4 Was transcription chec	oked?	Yeş	No	N/A
	hecked at a minimum frequency?	Yes	No	N/A
5.6 Are worksheet entries		Yes	No	N/A
3.0 Comments on any No	response:			

First Level Review

Jam anversin

Data 11- >3 AS



5299626 QC Batch Number:

A. Sample Analysis  1. Are the sample yields within acceptance criteria?  2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?  3. Are the correct isotopes reported?  B. QC Samples  1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?  2. Does the blank result meet the Contract criteria?  3. Is the blank result < the Contract Detection Limit?  4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?  5. Is the LCS recovery with contract acceptance criteria?  7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?  8. Do the MS/MSD results and yields meet acceptance criteria?  9. Do the duplicate sample results and yields meet acceptance criteria?  C. Other  1. Are all Nonconformances included and noted?  2. Are all required forms filled out?  3. Was the correct methodology used?  4. Was transcription checked?	Review Item	Yes (√)	No (√)	N/A (√)
1. Are the sample yields within acceptance criteria? 2. Is the sample Minimum Detectable Activity < the Contract Detection Limit? 3. Are the correct isotopes reported?  B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit? 2. Does the blank result meet the Contract criteria? 3. Is the blank result < the Contract Detection Limit? 4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit? 5. Is the LCS recovery with contract acceptance criteria? 7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit? 8. Do the MS/MSD results and yields meet acceptance criteria? C. Other 1. Are all Nonconformances included and noted? 2. Are all required forms filled out? 3. Was the correct methodology used? 4. Was transcription checked?	A. Sample Analysis			
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4. Was transcription checked?		i	:	
		the same of the sa		
5 Were all calculations checked at a minimum fraguence?		water and the same of the same		
	5. Were all calculations checked at a minimum frequency?	September 1		
6. Were units checked?	5. Were units checked?			
			· · · · · · · · · · · · · · · · · · ·	
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	* (*)			
			-	17/21
	Second Level Review / OCL / C	Maranau III.	Date	1-161



# Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

12/9/2005 10:24:12 AM

Lot No., Due Date:

J5J220217; 12/08/2005

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 5299630; RC14 C-14 by LSC

SDG, Matrix:

W04799; WATER

Il applicable analysis, dates, SOP numbers, and revisions?  ude a calculated result for each sample listed on the QC Batch Sheet?  sincluded in the batch?  plete; includes as appropriate, volumes, count times, etc?  Vial label for each sample?  hin contract limits?  DA within contract limits?  OAs within contract limits?  contract limits?	Yes	No No No No No	N/A N/A N/A N/A N/A
plete; includes as appropriate, volumes, count times, etc?  Vial label for each sample?  hin contract limits?  DA within contract limits?  contract limits?	Yes Yes Yes Yes Yes	No No No No No	N/A N/A N/A N/A N/A
plete; includes as appropriate, volumes, count times, etc?  Vial label for each sample?  hin contract limits?  DA within contract limits?  PAs within contract limits?  contract limits?	Yes Yes Yes Yes Yes	No No No No	N/A N/A N/A N/A
Vial label for each sample?  hin contract limits?  DA within contract limits?  As within contract limits?  contract limits?	Yes Yes Yes Yes	No No No No	N/A N/A N/A N/A
hin contract limits?  DA within contract limits?  DAs within contract limits?  contract limits?	Yes Yes Yes Yes	No No No	N/A N/A N/A
DA within contract limits?  DAs within contract limits?  contract limits?	Yes Yes Yes	No No	N/A N/A N/A
DA within contract limits?  DAs within contract limits?  contract limits?	Yes Yes Yes	No No	N/A N/A N/A
DA within contract limits?  OAs within contract limits?  contract limits?	Yes Yes	No No	N/A N/A
As within contract limits?  contract limits?  inits?	Yes	No	N/A
contract limits?	Yes		
inits?	V	No	
	Yes	\$1255 VALUE	N/A
ily?	W.	No	N/A
	Yes	No	N/A
	Yes	No	N/A
al requirements?	Yes	No	N/A
es?	Yes	No	N/A
	*		
noted?	Yes	No	N/A
	Yes	No	N/A
	Yes	No	N/A
	Yes	No	N/A
imum frequency?	Yes	No	N/A
prrect?	Yes	No	N/A
	<b>****</b>		
n	oted?	oted?  Yes  Yes  Yes  Yes  The property of the	oted?  Yes No Yes No Yes No Yes No num frequency?  Yes No

STL Richland

QAS\_RADCALCv4.8.15

First Level Review

Date 12 9.05



QC Batch Number:	5299630

The state of the s	1 //:		T = 23
Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis			· · · · · · · · · · · · · · · · · · ·
1. Are the sample yields within acceptance criteria?			
2. Is the sample Minimum Detectable Activity < the Contract	and the same of		•
Detection Limit?			
3. Are the correct isotopes reported?	Guarine Superine Supe		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the	I Carried March		
Contract Detection Limit?			
2. Does the blank result meet the Contract criteria?			
3. Is the blank result < the Contract Detection Limit?	And the state of t		
4. Is the blank result > the Contract Detection Limit but the sample			and the state of t
result < the Contract Detection Limit?			Lancia de la constantina della
5. Is the LCS recovery with contract acceptance criteria?	(comments)		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection	· ····································		
Limit?			
8. Do the MS/MSD results and yields meet acceptance criteria?			- burner
9. Do the duplicate sample results and yields meet acceptance	-		
criteria?	-	***************************************	
C. Other			)
1. Are all Nonconformances included and noted?			
2. Are all required forms filled out?	-		
3. Was the correct methodology used?	6		
4. Was transcription checked?	· ·		
5. Were all calculations checked at a minimum frequency?	N/AMED SPORTER		
6. Were units checked?	E september and with the		
Comments on any "No" response:			
Second Level Review:	and and an	Date:	12/21/



### Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

12/20/2005 8:28:31 AM

Lot No., Due Date:

J5J200181,J5J200184,J5J220217,J5J220210,J5J250137; 12/08/2005

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 5299559; RTC99 Tc-99 by LSC

SDG, Matrix:

W04799; WATER

ישכ	OG, WIATTX. WU4799; WATER			
	COC Is the ICOC page complete; includes all applicable and	alysis, dates, SOP numbers, and revisions?	No	N/A
2 A	QC Batch			
	Do the Summary/Detailed Reports include a calculated	d result for each sample listed on the QC Batch Sheet?	No	N/A
2.2	Are the QC appropriate for the analysis included in the	batch? Yes	No	N/A
2.3	Is the Analytical Batch Worksheet complete; includes a	as appropriate, volumes, count times, etc?	No	N/A
2.4	Does the Worksheets include a Tracer Vial label for ea	ach sample? Yes	No	N/A
	QC & Samples			
	Is the blank results, yield, and MDA within contract limi	<u> </u>	No	N/A
	Is the LCS result, yield, and MDA within contract limits		No	N/A
	Are the MS/MSD results, yields, and MDA within contra		No	N/A
	Are the duplicate result, yields, and MDAs within contra	V	No	N/A
3.5	Are the sample yields and MDAs within contract limits?		No	N/A
4.0	Haw Data			
	Were results calculated in the correct units?			N/A
	Were analysis volumes entered correctly?	Yes		
4.3	Were Yields entered correctly?	Yes	No	N/A
1.4	Were spectra reviewed/meet contractual requirements	? Yes	No	N/A
4.5	Were raw counts reviewed for anomalies?	Yes	No	Ñ/A
5.0	Other		95,518 1255 - 35	Owe associ
	Are all nonconformances included and noted?	Yes	No	N/A
5.2	Are all required forms filled out?	Yes	No	N/A
	Was the correct methodology used?	Yes	No	N/A
5.4	Was transcription checked?	Yes	No	N/A
5.5	Were all calculations checked at a minimum frequency	? Yes	No	N/A
5.6	Are worksheet entries complete and correct?	Yes	No	N/A
6.0	Comments on any No response:	· ·		
				0.500

STL Richland QAS\_RADCALCv4.8.15

First Level Review \_

Page 1

Date 12-2005



OC Daton Humbon.	OC Batch Number:	5	20	19	5	5	9
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Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis			
I. Are the sample yields within acceptance criteria?		****	-
2. Is the sample Minimum Detectable Activity < the Contract			•
Detection Limit?	1		
3. Are the correct isotopes reported?	E-manufacture and a second		
3. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the	and the second second		
Contract Detection Limit?	· water		
2. Does the blank result meet the Contract criteria?	- American		
3. Is the blank result < the Contract Detection Limit?	-		
I. Is the blank result > the Contract Detection Limit but the sample			
esult < the Contract Detection Limit?			L
5. Is the LCS recovery with contract acceptance criteria?	اسا		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection	and the state of t		
Limit?	Safeth Co.	·	
B. Do the MS/MSD results and yields meet acceptance criteria?	-		
Do the duplicate sample results and yields meet acceptance			
riteria?	- Constitution of the Cons		
C. Other			
. Are all Nonconformances included and noted?			-
. Are all required forms filled out?	bornon		
. Was the correct methodology used?	Constitution		
. Was transcription checked?			
. Were all calculations checked at a minimum frequency?	Section 2		
. Were units checked?	Samuel		
Comments on any "No" response:			
	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	·	
			1



# Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

12/13/2005 2:46:22 PM

Page 1

Lot No., Due Date:

J5J200181,J5J200184,J5J210189,J5J220217,J5J220210,J5J220219,J5J250143,J5J250145,J5J2

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 5299563; RTRITIUM H-3 by LSC

SDG. Matrix:

QAS RADCALCV4.8.15

W04799; WATER

SDG,	Matrix: W047	799; WATER			
<b>1.0 C</b> ( 1.1 ls t		es all applicable analysis, dates, SOP numbers, and revisions?	Yes	No	N/A
	C Batch				
2.1 Do	the Summary/Detailed Reports i	include a calculated result for each sample listed on the QC Batch Sheet?	Yes	No	N/A
2.2 Are	e the QC appropriate for the anal	ysis included in the batch?	Yes	No	N/A
2.3 ls 1	the Analytical Batch Worksheet c	complete; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
2.4 Do	es the Worksheets include a Tra	icer Vial label for each sample?	Yes	No	N/A
3.0 Q	C & Samples				•
	the blank results, yield, and MDA	within contract limits?	Yes	No	N/A
3.2 ls t	the LCS result, yield, and MDA w	vithin contract limits?	Yes	No	N/A
3.3 Are	e the MS/MSD results, yields, and	d MDA within contract limits?	Yes	No	N/A
3.4 Are	e the duplicate result, yields, and	MDAs within contract limits?	Yes	No	N/A
3.5 Are	e the sample yields and MDAs wi	ithin contract limits?	Yes	No	N/A
1 N D:	aw Data		V		
	ere results calculated in the corre	ect units?	Yes	No	N/A
4.2 We	ere analysis volumes entered cor	rectly?	Yes	No	N/A
4.3 We	ere Yields entered correctly?		Yeş	No	N/A
4.4 We	ere spectra reviewed/meet contra	actual requirements?	Yes	No	N/A
4.5 We	ere raw counts reviewed for anon	nalies?	Yeş	No	N/A
			V		e in the second
<b>5.0 O</b> 1 5.1 Are	t <b>ner</b> e all nonconformances included a	and noted?	Yes	No	N/A
5.2 Are	e all required forms filled out?		Yeş	No	₩/ N/A
5.3 Wa	as the correct methodology used	?	Yeş	No	N/A
5.4 Wa	as transcription checked?		Yeş	No	N/A
5.5 We	ere all calculations checked at a r	minimum frequency?	V	No	N/A
5.6 Are	e worksheet entries complete an	id correct?	Yeş		V
	mments on any No response:		V.		
Authoritis Management (Management)		to the second se	Store de la composition della	#1604-001-00-01-01-00-00-01	MERCHANICA ANGELE EL EMPLOYORI
First L	evel Review <u>Solu</u>	Marton Date 12-13-5	***	_	
STL Rich	hland				



QC Batch Number:	5	29	9563

A. Sample Analysis  1. Are the sample Minimum Detectable Activity < the Contract Detection Limit?  3. Are the correct isotopes reported?  B. QC Samples  1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?  2. Does the blank result meet the Contract criteria?  3. Is the blank result < the Contract Detection Limit?  4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?  5. Is the LCS minimum Detectable Activity ≤ the Contract Detection Limit?  8. Do the MS/MSD results and yields meet acceptance criteria?  9. Do the duplicate sample results and yields meet acceptance criteria?  C. Other  1. Are all Nonconformances included and noted?  2. Are all required forms filled out?  3. Was the correct methodology used?  4. Was transcription checked?  5. Were all calculations checked at a minimum frequency?  6. Were units checked?  Comments on any "No" response:	Review Item	Yes (√)	No (√)	N/A (√)
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit? 3. Are the correct isotopes reported? B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit? 2. Does the blank result meet the Contract criteria? 3. Is the blank result < the Contract Detection Limit? 4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit? 5. Is the LCS recovery with contract acceptance criteria? 7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit? 8. Do the MS/MSD results and yields meet acceptance criteria? 9. Do the duplicate sample results and yields meet acceptance criteria? C. Other 1. Are all Nonconformances included and noted? 2. Are all required forms filled out? 3. Was the correct methodology used? 4. Was transcription checked? 5. Were units checked? 6. Were units checked?	A. Sample Analysis			
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Second Level Review: Date: 12/21/				/



# Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

12/9/2005 4:40:08 PM

Lot No., Due Date:

J5J200181,J5J200184,J5J220210,J5J250137; 12/08/2005

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 5299557; RUNAT UNat by KPA

SDG, Matrix:

W04799; WATER

SDG, Matrix:	W04799; WATER			
1.0 COC 1.1 Is the ICOC page cor	mplete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yea	No	N/A
2.0 QC Batch 2.1 Do the Summary/Det	tailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes	No	N/A
2.2 Are the QC appropria	ate for the analysis included in the batch?	Yeş	No	N/A
2.3 Is the Analytical Batc	ch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
2.4 Does the Worksheets	s include a Tracer Vial label for each sample?	Yes	No	N/A
0.00% 0				Y
3.0 QC & Samples 3.1 Is the blank results, y	yield, and MDA within contract limits?	Yes	No	N/A
3.2 Is the LCS result, yie	ld, and MDA within contract limits?	Yes	No	N/A
3.3 Are the MS/MSD resu	ults, yields, and MDA within contract limits?	Yes	No	N/A
3.4 Are the duplicate resi	ult, yields, and MDAs within contract limits?	Yes	No	N/A
3.5 Are the sample yields	s and MDAs within contract limits?	Yes	No	N/A
1.0 Raw Data 1.1 Were results calculat	ted in the correct units?	Yes	No	N/A
I.2 Were analysis volum	es entered correctly?	Yes	No	N/A
.3 Were Yields entered	correctly?	Yes	No	N//
.4 Were spectra reviewe	ed/meet contractual requirements?	Yes	No	N/A
.5 Were raw counts revi	iewed for anomalies?	Yes	No	N/A
5.0 Other 5.1 Are all nonconformar	nces included and noted?	Yes	No	N/A
5.2 Are all required forms	s filled out?	Yes	No	N/A
5.3 Was the correct meth	nodology used?	Yes	No	N/A
5.4 Was transcription che	ecked?	Yeş	No	N/
5.5 Were all calculations	checked at a minimum frequency?	Yes	No	N/A
5.6 Are worksheet entries	s complete and correct?	Yes	No	N/A
See NCM.	o response: 10 · 0 7125			
mana, diakantakan diciri kecampa Salato - 17 Salata - 18 Salata			***************************************	
	am Andersen Date 12-12.0	2		
TL Richland		Page		



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QC Batch Number:	06	1	122	/

Review Item	Yes (√)	No (1)	N/A (√)
A. Sample Analysis		<u> </u>	
1. Are the sample yields within acceptance criteria?			· ·
2. Is the sample Minimum Detectable Activity < the Contract	-		
Detection Limit?			
3. Are the correct isotopes reported?	L		
B. QC Samples			
<ol> <li>Is the Minimum Detectable Activity for the blank result ≤ the</li> </ol>	" AND		
Contract Detection Limit?			
2. Does the blank result meet the Contract criteria?	Experience		
3. Is the blank result < the Contract Detection Limit?	and the state of t		
4. Is the blank result > the Contract Detection Limit but the sample	,		
result < the Contract Detection Limit?			L
5. Is the LCS recovery with contract acceptance criteria?	L		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection	· ·		
Limit?	-		
3. Do the MS/MSD results and yields meet acceptance criteria?	L		
P. Do the duplicate sample results and yields meet acceptance			
criteria?	. demonstration		
C. Other			
. Are all Nonconformances included and noted?	bereich		
2. Are all required forms filled out?	Samuel Control		
3. Was the correct methodology used?			
. Was transcription checked?	Carinettechnics		
6. Were all calculations checked at a minimum frequency?	Casadana,		
5. Were units checked?	Santana		
Comments on any "No" response:			
	•		
		***************************************	*
			f
		Date:	12/21

## Clouseau **Nonconformance Memo**



NCM #: 10-07125

NCM Initiated By: Pam Anderson Date Opened: 12/12/2005

Date Closed:

Classification: Anomaly

Status: CHREVIEW

Production Area: Counting

Tests: UNat by KPA

Lot #'s (Sample #'s): J5J200181 (1,2,3),

J5J200184 (1,2,3),

J5J220210 (1), J5J250137

(1,2,3), J5J260000 (557), QC Batches: 5299557

Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)

### Problem Description / Root Cause

Name Pam Anderson Date

Description

12/12/2005

The batch was recounted when the calibration for the day showed only two points were acceptable for the calibration. Recalibrating the next and recounting gives good

results.

#### Corrective Action

Name

Date

**Corrective Action** 

Pam Anderson

12/12/2005 Counting tech was given further instruction.

### **Client Notification Summary**

Client

**Project Manager** 

Notified

Response How Notified

Note

Response

Response Note

#### Quality Assurance Verification

Verified By

**Due Date** 

<u>Status</u>

**Notes** 

This section not yet completed by QA.

#### Approval History

**Date Approved** 

Approved By

**Position** 

Page 1 of 1 Date Printed: 12/12/2005



### Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

11/30/2005 11:46:51 AM

Lot No., Due Date:

J5J210189; 12/08/2005

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 5299632;

SDG, Matrix:

W04799; WATER

1.0 COC 1.1 Is the ICOC page cor	mplete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes	No	N/A
2.0 QC Batch		Angeria de la composição de la composição La composição de la composição d		
2.1 Do the Summary/Det	tailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes	No	N/A
2.2 Are the QC appropria	ate for the analysis included in the batch?	Yes	No	N/A
2.3 Is the Analytical Batc	ch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
2.4 Does the Worksheets	s include a Tracer Vial label for each sample?	Yes	No	N/A
3.0 QC & Samples				
3.1 Is the blank results, y	yield, and MDA within contract limits?	Yes	No	N/A
3.2 Is the LCS result, yie	eld, and MDA within contract limits?	Yes	No	N/A
3.3 Are the MS/MSD resu	ults, yields, and MDA within contract limits?	Yes	No	N/A
3.4 Are the duplicate res	sult, yields, and MDAs within contract limits?	Yes	No	N/A
3.5 Are the sample yields	s and MDAs within contract limits?	Yes	No	N/A
4.0 Raw Data				100
4.1 Were results calculat	ted in the correct units?	Yes	No	N/A
4.2 Were analysis volum	nes entered correctly?	Yes	No	N/A
4.3 Were Yields entered	correctly?	Yes	No	N/A
4.4 Were spectra reviewe	red/meet contractual requirements?	Yes	No	N/A
4.5 Were raw counts revi	riewed for anomalies?	Yes	No	N/A
5.0 Other				
5.1 Are all nonconformar	nces included and noted?	Yes	No	N/A
5.2 Are all required forms	s filled out?	Yes	No	N/A
5.3 Was the correct meth	hodology used?	Yes	No	N/A
5.4 Was transcription che	ecked?	Yes	No	N/A
5.5 Were all calculations	s checked at a minimum frequency?	Yes	No	N/A
5.6 Are worksheet entries	es complete and correct?	Yes	No	N/A
6.0 Comments on any No	o response:	, <u>"</u>		
	A PART OF THE PART			

First Level Review Pan Andersu

Date 11.3005-



OC Batch Number:	520	19632

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?			boundary
2. Is the sample Minimum Detectable Activity < the Contract			3 market
Detection Limit?			650
3. Are the correct isotopes reported?	Executive		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the			
Contract Detection Limit?			L
2. Does the blank result meet the Contract criteria?	L		
3. Is the blank result < the Contract Detection Limit?	icanome		
4. Is the blank result > the Contract Detection Limit but the sample			Lawrence .
result < the Contract Detection Limit?			
5. Is the LCS recovery with contract acceptance criteria?	· · ·		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection			
Limit?			
B. Do the MS/MSD results and yields meet acceptance criteria?			· Luciania de la compania del la compania de la compania del la compania de la compania del la compania de
9. Do the duplicate sample results and yields meet acceptance	A marketine		)
criteria?			
C. Other			A ADMINISTRAÇÃO CONTRAÇÃO CONTRAÇÃO CONTRAÇÃO CONTRAÇÃO CONTRAÇÃO CONTRAÇÃO CONTRAÇÃO CONTRAÇÃO CONTRAÇÃO CONT
1. Are all Nonconformances included and noted?			
2. Are all required forms filled out?	Lucian		
3. Was the correct methodology used?	Commence		
4. Was transcription checked?	A PARTITION FOR PARTITION AND ADDRESS OF THE PARTITION ADDRESS OF THE PARTITION ADDRESS OF THE PARTITION AND ADDRESS OF THE PARTITION A		
5. Were all calculations checked at a minimum frequency?	and the same of th		
6. Were units checked?	is a second		1.

Second Level Review:



### Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

11/30/2005 11:47:35 AM

Lot No., Due Date:

J5J250145; 12/08/2005

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 5334372;

SDG. Matrix:

W04799; WATER

SDG, Matrix:	W04799; WATER			
1.0 COC 1.1 Is the ICOC page co	omplete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes	No	N/A
<b>2.0 QC Batch</b> 2.1 Do the Summary/De	stailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yeş	No	N/A
2.2 Are the QC appropri	ate for the analysis included in the batch?	Yes	No	N/A
2.3 Is the Analytical Batc	ch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
2.4 Does the Worksheet	ts include a Tracer Vial label for each sample?	Yes	No	N/A
3.0 QC & Samples 3.1 Is the blank results, y	yield, and MDA within contract limits?	Yes	No	N/A
3.2 Is the LCS result, yie	eld, and MDA within contract limits?	Yes	No	N/A
3.3 Are the MS/MSD res	sults, yields, and MDA within contract limits?	Yes	No	N/A
3.4 Are the duplicate res	sult, yields, and MDAs within contract limits?	Yes	No	N/A
3.5 Are the sample yield	s and MDAs within contract limits?	Yes	No	N/A
I.0 Raw Data I.1 Were results calcula	ated in the correct units?	Yes	No	N/A
1.2 Were analysis volum	nes entered correctly?	Yes	No	N/A
.3 Were Yields entered	I correctly?	Yes	No	N/A
	ved/meet contractual requirements?	Yes	No	N/A
1.5 Were raw counts rev	viewed for anomalies?	Yes	No	N/A
5.0 Other 5.1 Are all nonconformat	nces included and noted?	Yes	No	N/A
5.2 Are all required form	s filled out?	Yes	No	N/A
5.3 Was the correct met	hodology used?	Yes	No	N/A
5.4 Was transcription ch	necked?	Yes	No	N/A
	s checked at a minimum frequency?	Yes	No	N/A
	es complete and correct?	Yeş	No	N/A
6.0 Comments on any N	lo response:			

STL Richland

QAS\_RADCALCv4.8.15

First Level Review



#### Data Review Checklist RADIOCHEMISTRY Second Level Review

OC Batch Number:	OC Batch Number:	5334372
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Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?			L.
2. Is the sample Minimum Detectable Activity < the Contract			i more
Detection Limit?			
3. Are the correct isotopes reported?	1		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the			
Contract Detection Limit?			L
2. Does the blank result meet the Contract criteria?	1		
3. Is the blank result < the Contract Detection Limit?	W		
4. Is the blank result > the Contract Detection Limit but the sample			
result < the Contract Detection Limit?			1
5. Is the LCS recovery with contract acceptance criteria?	<b>L</b>		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection			
Limit?			-
8. Do the MS/MSD results and yields meet acceptance criteria?	•		immen
9. Do the duplicate sample results and yields meet acceptance	and the same of th		
criteria?	1		
C. Other			
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2. Are all required forms filled out?	Šamero.		
3. Was the correct methodology used?	S. community		
4. Was transcription checked?			
5. Were all calculations checked at a minimum frequency?	. Special control of the control of		
6. Were units checked?	Statement		

Comments on any "No" response:			
· ·			
Second Level Review:	e Comment	Date	: 12/21/05

PNNL					CHAI	N OF (	CUSTODY/S	SAMPLE	ANALYSI	IS RE	QUEST	C.O.	A	06-010-2
Collector DURA	VIEK					Contact/Re					ephone No.	MSIN	FAX	
O, B	BREWNG	TO	i.			Dot Stew				5	509-376-5056			
SAF No. A06-010						Sampling C	rigin			Pur	chase Order/Cha	irge Code		
Project Title						C.	A 1 4 1 C - 4 /	G <sub>1</sub> -3		Ice	Chest No.	Te	emp.	
PA OCTOBER, 2 Shinned To (Lab)	005					> Method of S	4205-4	/>			of Lading/Air Bi			
Severn Trent Inco	rnorated Rich	nland				Gov't Tru				13111	oi Lading/Air Bi	III NO.		
Protocol							Prio	rity: 45 Days		Off	site Property No.			
Other POSSIBLE SAMPI	FHAZARD	S/RFN	MARKS					SPECIAL INST	RUCTIONS	Hold Tir	ne	Total Activity	Evernation:	Yes V No
** **					WO479 J5J20 Dan	0181	o5					2000.200.000		
Sample No.	Lab ID	*	Date	Time	1	Container		<b></b>	Sample Analysi	ic			Dro	servative
B1DYR6	Lab ID	<del>,,,</del> +			4 4000		906.0_H3_LSC: Tritio	um (1)	Sample Analysis		***************************************		1 110	None
		/	0-19-05	1017	<u> </u>					Hm	6AF			
B1DYR6		W	a market	1	1x1000-m	LP	9310_ALPHABETA_	GPC: Alpha + Beta	(2)					HNO3 to pH <2
B1DYR6		W	e de septime d'al la constitución de la constitució	ويومون فحطوامه يات	1x20-mL	Р	Activity Scan							None
B1DYR6		W	To an annual section of the section	and the same	2x4000-m	L G/P	I129LL_SEP_LEPS_	GS_LL: I-129 (1)				**************************************		None
B1DYR6		w	E MANAGEMENT S	y Company	1x500-mL	Р	TC99_ETVDSK_LSC	C: Tc-99 (1)						HCl to pH <2
B1DYR6		w .			1x500-mL	G/P	UTOT_KPA: Uraniun	n (1)						HNO3 to pH <2
· January Company							***************************************					** * * .		
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								A STREET, STRE	<sup>12</sup> 57n					
<u> </u>	·		<u> </u>				1		No 310 relative Charles		311	6,47		
Relinquished By D. R. BREWIN	Print IGTON (	) L	Sign	rel	DET Pates	7005/4	Received By Jeff J	ensen /	Sign	OCT	Date/Time <i>l' T</i>		) CPM	DS = Dram Solid
Relinquished By			<i>y</i>		Date	i nne	Received by				Date/Time	SE = Sedi SO = Solid SL = Slud W = Wat	ment 1 ge	DI. = Drum Lioni T = Tissue WI = Wine L = Lionid
Relinquished By				$\bigcup$	Date/	l'ime	Received By				Date/Time	O = Oil A = Air		V = Vegetation X = Other
Relinquished By					Date/	Time	Received By				Date/Time			
FINAL SAMPLE DISPOSITION	E Disposal M	lethod (	(e.g., Return to	customer, p	per lab procedure	, used in proce	l ess)		Disposed By				Date/Time	

PNNL					CHAI	N OF (	CUSTODY/S	SAMPLE	ANALYSI	IS RE(	QUEST		C.O.C.		.06-01	0-3
						•					_			Page <u>1</u>	of <u>1</u>	
Collector	EK.					Contact/Re				Tele	phone No.	MS		FAX		
DRB SAF No.	REWING	TON				Dot Stew Sampling C					9-376-5056 hase Order/Ch	anna Cada				
A06-010						Sambuna (				rure	nase Order/Ci	iarge Code				
Project Title PA OCTOBER, 20	05						SAUS.	-493		Ice C	Chest No.	15-212	Tem	D.		
Shinned To (Lab)	V.S					Method of				Bill	of Lading/Air l					
Severn Trent Incor: Protocol	norated_Ric	hland				Gov't Tru				Offici	ite Property No	~				
Other							Prio	rity: 45 Days	·····							
POSSIBLE SAMPLI ** **	E HAZARD	S/REM	IARKS		W047	99		SPECIAL INST	RUCTIONS	Hold Time	e P	Total A	ctivity Ex	temption:	Yes ✓ N	No L
Sample No.	Lab ID	*	Date	Time	No/Type	Container			Sample Analysi	is	,			Pres	ervative	
B1DYR7		w		18216	1x1000-ml		906.0_H3_LSC: Tritic	ım (1)			-/ // ^				None	
B1DYR7		W	2-17-05	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1x1000-ml	L P	9310_ALPHABETA_0	GPC: Alpha + Beta	(2)		n6AQ				HNO3 to p	H <2
B1DYR7		w	And the second s	o de la companione de l	1x20-mL	P	Activity Scan								None	
B1DYR7		w	s I-Doubleman		2x4000-ml	_ G/P	I129LL_SEP_LEPS_0	GS_LL: I-129 (1)	·						None	
B1DYR7		W	A CONTRACTOR OF THE CONTRACTOR	* Consulation and the same	1x500-mL	Р	TC99_ETVDSK_LSC	: Tc-99 (1)		***************************************					HCI to pH	<2
B1DYR7		W		4	1x500-mL	G/P	UTOT_KPA: Uranium	ı (1)							HNO3 to p	H <2
	And the state of t															
			- 中の名がないのでは、からかからはないのからないからいから	Andrea of the spirit of the sp												
				-	And the second section is a second second	VZ	4									
					/	A :	0 13									
							1700									
				· .		160	<del> </del>		2	***************************************		57				
Relinquished By: K  D. R. BREWI  Relinquished By	Print NGTON	Q. P	Hu Huu	infle		9 2005	Received By	Print Jensen	Sign	TCT	Date/Time / L 1 9 2005 Date/Time	S SE	<1,00 = Sedime		nS = Dm DL = Dm	ım Solid ım Liani
·				0								SL.	= Solid = Sludge = Water		$T = Tiss$ $WI = Win$ $I_{\cdot} = I_{\cdot}$ iar	ne
Relinquished By					Date/T	ime	Received By				Date/Time	0	= Oil = Air			getation
Relinquished By					Date/T	ime	Received By				Date/Time					
				···												
FINAL SAMPLE DISPOSITION	Disposal N	fethod (	e.g., Return to	customer, per	lab procedure,	used in proce	ess)		Disposed By				Ε	Date/Time		

PNNL					CHAI	N OF	CUSTODY/S	SAMPLE AN	ALYSIS F	REQUEST	C.O.C. #	A0	6-010-18 of 1
Collector R. BRI		ا کارت	L			Contact/Re	equester			Telephone No.	MSIN	FAX	
SAF No.	ZAANACZ P	Sir				Dot Stew Sampling O				509-376-5056	C-1-		
A06-010		441144444				Sambling	)rigin			Purchase Order/Chare	ge Code		
Project Title PA OCTOBER, 200	15						SAWS-	493		Ice Chest No. SAいりって	Temp	١.	
Shinned To (Lab)		0000000000				Method of	Shipment			Bill of Lading/Air Bill	No.		
Severn Trent Incom Protocol	orated Rich	nland				Gov't Tru		***************************************		Offsite Property No.			
Other							Prio	rity: 45 Days					
POSSIBLE SAMPLE  ** **	C HAZARD	S/RE	MARKS		w04	799		SPECIAL INSTRUCT	IONS Hold	l Time	Total Activity Exe	emption:	Yes ♥ No □
Sample No.	Lab ID	*	Date	Time	No/Type	Container		Sar	nple Analysis			Prese	ervative
B1DYT6		W	10-19-05	1155	1x1000-m	LP	906.0_H3_LSC: Tritiu	ım (1)	itn	16 A X			None
B1DYT6	<del></del>	W	1		1x1000-m	L P	9310_ALPHABETA_	GPC: Alpha + Beta (2)	6100	7677			HNO3 to pH <2
B1DYT6		W	o documentation visitories	. To the second	1x20-mL	Р	Activity Scan						None
B1DYT6		W	9,000		2x4000-m	L G/P	I129LL_SEP_LEPS_	GS_LL: I-129 (1)					None
B1DYT6		W		i de la companya de	1x500-mL	Р	TC99_ETVDSK_LSC	:: Tc-99 (1)					HCl to pH <2
B1DYT6		W	-		1x500-mL	G/P	UTOT_KPA: Uranium	n (1)					HNO3 to pH <2
	AND DESCRIPTION OF THE PARTY OF	(Samplemann)											
			Control of the State of the Sta	CONTRACTOR MANAGEMENT AND		W							
			r.		William State of the State of t	THE REAL PROPERTY AND PERSONS ASSESSED.							
					10-19.	25							
		************	1	Marine Ma		. 11 CL 2	67.				7		
Relinquished BX D. R. BREWINN	Print STON (	). <u>p</u> /	Jewy Dewy		OCT 1	9 2005	Jeff	Jensen M	Sign 01	Date/Time 145	<100 S = Soil SE = Sediment	- 1	S = Drum Solid DL = Drum Liqui
Relinquished By		· ·		)	Date/		Received By	///		Date/Time	SO = Solid SL = Sludge W = Water	Т	T = Tissue WI = Wine = Liquid
Relinquished By					Date/	ime	Received By			Date/Time	O = Oil A = Air	V X	
Relinquished By					Date/	Time	Received By			Date/Time	1		
FINAL SAMPLE DISPOSITION	Disposal M	lethod	(e.g., Return to	customer, per	lab procedure	, used in proce	ess)	Dispose	ed By		Da	ate/Time	



Date/T	ime Received:	101905 145	2			
Client:	Pe	άω SDG #:_	w04799	NA[] SA	F#: 406-01	oNA[]
Work (	Order Number: <u>J</u>	55200181	_ Cha	in of Custody #	406-010-	-2,3,18
Shippin	ng Container ID:_	SAWS 212	_ Air l	3ill #		
1.	Custody Seals o	n shipping containe	r intact?		NA [ ] Yes [/]	No[]
2.	Custody Seals d	ated and signed?			NA[] Yes	No[]
3.	Chain of Custod	y record present?			Yes [/]	No[]
4.	Cooler temperat	ure:NAJ	] 5.Vermi	culite/packing n	naterials is NA	[] Wet[].Dry[/
6.	Number of samp	oles in shipping con	ainer:	21	-	,
7.	Sample holding	times exceeded?			NA [ Yes []	No [ ]
8.	Samples have:			hazar		
	Custody se	als		appro	priate samples	labels
9.	Samples are: ·in good cobroken	ndition			ng air bubbles umples requiring	g head space)
10.	Sample pH taken	? NA[]	pH<2 [/]	pH>2 / pF	<del>I</del> >9 [ ]	
11.	•	, Sample Collector I		eded.	Yes	] No[]
12.	Were any anomal	lies identified in san	nple receipt?		Yes [ ]	] No [/]
13.	Description of an	omalies (include sa	mple numbers	):	<u> </u>	
Sample (	Custodian:	M2-			1905	
Clie	nt Sample ID	Analysis Reques	ted	Condition	Con	nments/Action
Client Inf	ormed on	by		Person contact	ted	
[ ] No a	ction necessary; pro	ocess as is.				
Project M	anager			Date	W	
LS-023, 9	/03, Rev. 5					

PNNL					CHAIN OF	CUSTODY/S	SAMPLE ANALYS	SIS REQUEST	- <del> </del>	06-010-26
Collector	DURATE	<del>K -</del>			Contact/Re	equester		Telephone No.	MSIN FAX	
	R.T.SK	CKLE	es es		Dot Stev	vart		509-376-5056		
SAF No.					Sampling (	Origin Hante	ord Site	Purchase Order/Charg	e Code	
A06-010 Project Title						T LOTTO	Constant	Ice Chest No. Co. See	Temp.	
PA OCTOBER, 2					609	book's DTS	S-SAWS-495	Ice Chest No. SAW	2-10C JOHNEY	
Shinned To (Lah)				hupadanan orang managan da an	Method of	Shipment		Bill of Lading/Air Bill l	Ño.	
Severn Trent Inco Protocol	ornorated. Ric	hland_			Gov't Tri		ority: 45 Days	Offsite Property No.		
Other		2000							777 . 1 A . 1 *	
POSSIBLE SAMP ** **	LE HAZAKI	)S/KE	MAKKS	75	104799 55200184 Due 1202	25	SPECIAL INSTRUCTIONS	Hold Time	Total Activity Exemption:	Yes V No
Sample No.	Lab ID	*	Date	Time	No/Type Container		Sample Ana	lysis	Pre	eservative
B1DYV1		W	10/19/0	5 1256	1x1000-mL P	906.0_H3_LSC: Tritiu	um (1)	Hm 6 C N		None
B1DYV1		W	10/17	10	1x1000-mL P	9310_ALPHABETA_	GPC: Alpha + Beta (2)	//		HNO3 to pH <2
B1DYV1		W			1x20-mL P	Activity Scan				None
B1DYV1		W		- Annual Control of the Control of t	2x4000-mL G/P	I129LL_SEP_LEPS_	GS_LL: I-129 (1)			None
B1DYV1		w	Anna Michigan Maria	- Parageories	1x500-mL P	TC99_ETVDSK_LSC	C: Tc-99 (1)			HCl to pH <2
B1DYV1	_	w	V	11	1x500-mL G/P	UTOT_KPA: Uranium	n (1)			HNO3 to pH <2
									_	
			-/-					£2. 9000g	ي سمر غ	
Relinquished By DURATEK	Print	1	Sign	OC.	1 1 3 2000	leff Jensen	Print Sign	OCT 1 9 2005	Matrix s <100 CPM se = Sediment	X *  DS = Drum Solid DL = Drum Liqui
Relinquished By					Date/Time	Received By		Date/Time	SO = Solid SL = Sludge W = Water	T = Tissue WI = Wipe L = Liquid
Relinquished By					Date/Time	Received By		Date/Time	O = Oil A = Air	V = Vegetation X = Other
Relinquished By					Date/Time	Received By	AMIN (Annual Control of Control o	Date/Time	L	
FINAL SAMPLI DISPOSITION		Method	(e.g., Return	to customer, per	r lab procedure, used in proc	ess)	Disposed By		Date/Time	

PNNL							CHAI	N OF	CUST	ODY/	SAMI	PLE A	NALYS	SIS R	EQUE	ST		C.O.C. 1		6-010	)-42
																		P	age <u>1</u>	of <u>1</u>	
Collector	DURAT			<u> </u>				Contact/Re					· · · · · · · · · · · · · · · · · · ·		<b>Telephone</b> N 509-376-5		MSII		FAX		
SAF No. A06-010	530 506	NOIL	Heres African					Sampling C		lanfe	3 km	Site			Purchase O		ge Code				
Project Title PA OCTOBER, 200	35	**********						loah	ook'	DT	Z - S	722J-A	HPS		Ice Chest No	° SAW	5-102	Temr	o.		
Shinned To (Lab)		000000000000000000000000000000000000000				WAR STANSON TO SEE		Method of			<u> </u>	,, 000			Bill of Ladi	***************************************					
Severn Trent Incorr Protocol	oorated. Ricl	hland.	espectation.		***************************************			Gov't Tru		Prio	rity: 45 [	Davs			Offsite Prop				· · · · · · · · · · · · · · · · · · ·		
Other POSSIBLE SAMPLE	HAZADD	S/DF	MAD	KC		t				1 110		L INSTRU	CTIONS	Hold	Time		Total A at	ivrita Eve	ametian	Yes 🗸	No
** **	HAZAKO	3/ <b>KG</b> 2	WAR	<b>X</b> S			WOF	799			SILCIAI	LINSTRO	CHONS	Holu	Time		Total Act	IVIŲ EX	emption.	ies 🖭	NO L
Sample No.	Lab ID	*	Ι	Date	Т	ime	No/Type	Container					Sample Anal	ysis		·····			Pres	ervative	•
B1DYW0		W	10/4	a/05	) (	19	1x1000-m	LP	906.0_H3	3_LSC: Tritio	ım (1)			H	m 6 CK					None	
B1DYW0	11,11-11,110	W	1	1			1x1000-m	L P	9310_AL	PHABETA_	GPC: Alpha	a + Beta (2)								HNO3 to	pH <2
B1DYW0		W					1x20-mL	Р	Activity S	can										None	
B1DYW0		W		1			2x4000-m	L G/P	1129LL_S	SEP_LEPS_	GS_LL: I-12	29 (1)								None	
B1DYW0		w					1x500-mL	P	TC99_E1	VDSK_LSC	: Tc-99 (1)									HCl to ph	H <2
B1DYW0		w		1	\		1x500-mL	G/P	итот_к	PA: Uraniun	า (1)	***************************************		· ·						HNO3 to	pH <2
				<u> </u>																	1
																	- transacu				
								·													
												*****						****			
·																					
						<i>?!!</i>															
									. (						/	145	7/				
Relinquished By  DURATEK				8199		OCT	Date/	ime 457	Received B Jeff J	ensen	Prin		Sjen 1	OCT	Date/T	ime			o Metrix		
Relinquished By		M	7_		<del></del>	<u>UC1</u>	Date/	uus	Received B				<i>/'</i>		Date/T		SE = SO = SL =	Soil Sedimen Solid Sludge Water	nt.	T = Ti $WI = W$	rum Liaui issue 'ine
Relinquished By	***************************************						Date/	Time	Received B	у					Date/T	ime	0 =	Oil Air		I. = I.i V = Ve X = Ot	egetation
Relinquished By							Date/	Time	Received B	у		W 4.01 · ·	1000-mm sammen		Date/T	ime					
FINAL SAMPLE DISPOSITION	Disposal M	lethod	(e.g., I	Return to	custor	ner, per	lab procedure	, used in proce	l ess)		·	Dis	posed By					. D:	ate/Time		

PNNL	4					CHAI	N OF	CUSTODY/	SAMPLE A	NALYSIS R	EQUEST	C.O.C.		6-010-30
	DURAT						·					F	age <u>1</u>	of <u>1</u>
Collector	DUNA!		LE				Contact/Re Dot Stew				Telephone No. 509-376-5056	MSIN	FAX	
SAF No.							Sampling (		ord Site		Purchase Order/Chai	rge Code	**	
A06-010 Project Title							f \			~C	Ice Chest No.	C 1 - C Temp	).	
PA OCTOBER, 200	05								5-5AWS-H		Ice Chest No. SAW			
Shinned To (Lab) Severn Trent Incorr	orated_Ricl	bland	E86480505000				Method of a Gov't Tru				Bill of Lading/Air Bil	l No.		
Protocol Other								Pric	ority: 45 Days		Offsite Property No.			
POSSIBLE SAMPLE  ** **	E HAZARD	S/RE	MARKS			ω <i>0</i>	4799		SPECIAL INSTRU	CTIONS Hold	Time	Total Activity Ex	emption:	Yes V No
Sample No.	Lab ID	*	Date	7	Time	No/Type	Container			Sample Analysis			Pres	ervative
B1DYV3		W	10/19/0	s in	49	1x1000-m	LP	906.0_H3_LSC: Triti	um (1)	Hov	16CV	***************************************		None
B1DYV3		W	1			1x1000-m	LP	9310_ALPHABETA_	GPC: Alpha + Beta (2)		<i>V</i>			HNO3 to pH <2
B1DYV3		W				1x20-mL	Р	Activity Scan		· · · · · · · · · · · · · · · · · · ·			*	None
B1DYV3		W				2x4000-m	L G/P	I129LL_SEP_LEPS_	GS_LL: I-129 (1)	***************************************		**************************************		None
B1DYV3		W				1x500-mL	Р	TC99_ETVDSK_LS0	C: Tc-99 (1)		AND THE STATE OF T			HCI to pH <2
B1DYV3		W	V		J	1x500-mL	G/P	UTOT_KPA: Uraniur	m (1)					HNO3 to pH <2
														, Ø
							100	<del>}``</del>		TANDO AND THE PROPERTY OF THE	/45	×1 (		
Relinquished By DURATEK	Print		Sign		OC.	Date/	ime 75°	Received By  Jeff Jense	Print	Sign OCI	19°2005	<100	Matrix 'CPM.	S = Drum Solid
Relinquished By	1/6	7				Date/		Received By	- January Company		Date/Time	S = Soil SE = Sedimer SO = Solid SI = Sludge W = Water	nt. I	DI. = Drim Liqui  T = Tissue  WI = Wine  Liquid
Relinquished By						Date/	l'ime	Received By			Date/Time	O = Oil A = Air		V = Vegetation V = Other
Relinquished By			,	. 1.1805		Date/	lime .	Received By			Date/Time		**	
FINAL SAMPLE DISPOSITION	Disposal N	1ethod	(e.g., Return	to custo	mer, per	lab procedure	, used in proce	ess)	Disp	posed By	1.00.400	D	ate/Time	



Date/T	ime Received:	10 1905 1950			
Client:	Pai	SDG #:	w0479	NA[] SA	AF#: 406-010 NA[]
Work (	Order Number: <u>J</u>	55200184	Cha	in of Custody#	A06-010-26,42,30
Shippir	ng Container ID:_	SAWS 102	Air	Bill#	
1.	Custody Seals o	n shipping container i	ntact?		NA[] Yes [ No[]
2.	Custody Seals d	ated and signed?		~	NA[] Yes [] No[]
3.	Chain of Custod	y record present?			Yes [/] No []
4.	Cooler temperat	ure:NA_[/]	5.Vermi	culite/packing n	materials is NA[] Wet[]Dry
6.	Number of samp	les in shipping contain	ner:	2/	-
7.	Sample holding	times exceeded?			NA [] Yes [] No []
8.	Samples have:tapecustody se	als			d labels opriate samples labels
9.	Samples are:in good cobroken			leakin have a	•
10.	Sample pH taken	? NA[]	pH<2/	pH>2 [/ pH	H>9 [ ]
11.		, Sample Collector Lis		eded.	Yes [ ] No [ ]
12.	Were any anomal	lies identified in samp	le receipt?		Yes [] No []
13.	Description of an	omalies (include samp	ole numbers	s):	
***************************************					
Sample (	Custodian:	14/	-	_Date:	905
Clie	nt Sample ID	Analysis Requested	i	Condition	Comments/Action
Client Inf	ormed on	by		Person contact	ted
[ ] No a	ction necessary; pro	ocess as is.			
Project M	anager			Date	
LS-023, 9	/03, Rev. 5				

PNNL		***************************************			CHAI	N OF	CUSTODY/S	SAMPLE ANAL	YSIS F	REQUEST	C.C		6-010-162 of <u>1</u>
Collectop. CON	NOLLY			· · · · · · · · · · · · · · · · · · ·		Contact/Re		CONTRACTOR OF THE STATE OF THE	- 1	Telephone No.	MSIN	FAX	
SAF No.		····				Dot Stew Sampling (	Origin HAAF	u d		509-376-5056 Purchase Order/Char	ze Code	· · · · · · · · · · · · · · · · · · ·	
S06-010 Project Title	CTODED 200	· F					TS- SAWS		· · · · · · · · · · · · · · · · · · ·	Ice Chest No.	_eec <sup>1</sup>	emp.	
LTMC/SURV. O Shinned To (Lab) Severn Trent Inco			\$255450000000000000000000000000000000000			Method of	Shipment			Bill of Lading/Air Bill	No.		
Protocol	ornorated. Ric	hland				Govt. Tri		r <b>ity</b> : 45 Days		Offsite Property No.			
SURV POSSIBLE SAMP ** **	LE HAZARI	OS/RE	MARKS		W	7799		SPECIAL INSTRUCTIONS	S Hold	Time	Total Activity	Exemption:	Yes 🗹 No
Sample No.	Lab ID	*	Date	Time	No/Type	Container		Sample A	Analysis			Pre	servative
B1F1F8		W	iolzols		1x1000-m	L P	906.0_H3_LSC: Tritic	m (1) HM 935				I	None
B1F1F8		W	4	V	1x20-mL	Р	Activity Scan	1/1/8/13/3	· · · · · · · · · · · · · · · · · · ·				None
											<u> </u>		
<u> </u>									·				
										1/10 1/10 1/10 1/10 1/10 1/10 1/10 1/10			
		<b> </b>									····		
······································						***************************************	<u> </u>					-	
								ANNUAL MANAGEMENT AND ANNUAL MANAGEMENT AND ANNUAL MANAGEMENT AND					
· · · · · · · · · · · · · · · · · · ·						<b></b>		W					
											Mr.		
Relinquished By D. P. CONN  Relinquished By	OLLY Print		Sign	OCT 2	0 2005 Date/	1937	Received By <b>Jeff</b> J	ensen M	OCT 2	Date/Time  Date/Time  Date/Time	<100 S = Soi SE = Sec SO = Soi	liment	*  DS = Drum Solid  DL = Drum Liqui  T = Tissue
Relinquished By					Date/	Time	Received By			Date/Time	$\begin{array}{ccc} SI & = & SIu \\ W & = & Wz \\ O & = & Oil \\ A & = & Aiu \end{array}$	dge ter	WI = Wine I. = Lianid V = Vegetation X = Other
Relinquished By			· · · · · · · · · · · · · · · · · · ·		Date/	Time	Received By			Date/Time	l		

Disposed By

Date/Time

FINAL SAMPLE

DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

				, , , , , , , , , , , , , , , , , , , ,							10.00		
PNNL					CHAIN	OF	CUSTODY	/SAMPLE AN	ALYSIS	REQUEST	C.O.C.		-010-150
											P	age <u>1</u>	of <u>1</u>
Coffedbi COM	MOLLY		***		C	Contact/Re			-	<b>Telephone No.</b> 509-376-5056	MSIN	FAX	
SAF No.					s	ampling (	Origin Han	S	,	Purchase Order/Charg	e Code		
S06-010 Project Title										Ice Chest No. SAN L-	Temr	).	
LTMC/SURV, O Shinned To (Lab)		)5					S- SAWS	~ H70		Bill of Lading/Air Bill	22C		
Severn Trent Inc		hland				Govt. Tr					110.		
Protocol SURV							Pr	iority: 45 Days		Offsite Property No.			
POSSIBLE SAMP	LE HAZARI	OS/RE	EMARKS		W047	99		SPECIAL INSTRUCT	IONS Ho	ld Time	Total Activity Exe	emption:	Yes 🗹 No
					JSJ 21	1189	,						
					Due								
Sample No.	Lab ID	* .	Date	Time	No/Type C			Sar	nple Analysis			Pres	ervative
B1F1F2		W	10/20/5	loll	1x1000-mL	P	906.0_H3_LSC: Tr	tium (1)	HM 93 M	7			None
B1F1F2		W		V	1x20-mL P	******	Activity Scan						None
							***************************************	AMAZON CAMANANA CAMANANA					·
										William Committee of the Committee of th			
		<del> </del>						* *************************************					
		-											
								•					
***************************************													
· · · · · · · · · · · · · · · · · · ·					<u> </u>			· · · · · · · · · · · · · · · · · · ·					
		<b> </b>	z, fr						***************************************	***************************************			
							<u> </u>		,,, mws.				
Relinquished By	Print	) 4	Sign	NCT 2 11	Date/Tit	y 1355	Received By Jeff J		Sign NCT 20	Date/Time 1355	<100 C	PMatrix	* DS = Drum Solid
Relinquished By				×	Date/Tir	me	Received By			Date/Time	SE = Sedimer SO = Solid SL = Sludge W = Water	nt 1	DI = Drim Liqui T = Tissue WI = Wine Liquid
Relinquished By					Date/Tir	me	Received By			Date/Time	O = Oil A = Air	;	V = Vegetation X = Other
Relinquished By					Date/Tu	ne	Received By		- Alleman -	Date/Time			
FINAL SAMPLE DISPOSITION		Method	l (e.g., Return to	customer, per	lab procedure, ı	used in proce	ess)	Dispose	ed By	100000000000000000000000000000000000000	D	ate/Time	

PNNL					CHAI	N OF	CUSTODY	/SAMPLI	E ANALYS	SIS R	EQUEST	C.O.0	S00	5-010-1	
Collector	10 C 40 A A A A A			· .		Contact/Re	equester	·		1	Telephone No.	MSIN	Page 1 FAX	of <u>1</u>	
Collector, CO!	<u> NNOTTÄ</u>			•		Dot Stew	/art				509-376-5056				
SAF No. S06-010						Sampling (	Drigin Hanf	<u>کسم</u>			Purchase Order/Char				
Project TitleLTMC/SURV, (	OCTOBER 200	15			-	OT	S- SAWS	- H98			Ice Chest No. SMC	-550 Te	np.		
Shinned To (Lab)		PANADAMANANANA		A STATE OF THE PROPERTY OF THE		Method of					Bill of Lading/Air Bill				
Severn Trent Inc Protocol	ornorated Ric	hland				Govt. Tri					Offsite Property No.	***************************************			
SURV	I E HAZADI	SC/DE	MADIZO	1			Pi	iority: 45 Days				Total Activity I		Van M 3	N.
POSSIBLE SAMF ** **	LE HAZAKI	)5/ KE	MARKS		W04	799		SPECIAL IN	STRUCTIONS	nolu	Time	Total Activity I	exemption.	res 🖭 1	NO L
Sample No.	Lab ID	*	Date	Time	No/Type	Container			Sample Analy	ysis			Pre	servative	
B1F1F5		W	10/20/5	1006	1x1000-m		906.0_H3_LSC: Ti	itium (1)	HM 931					None	
B1F1F5		W	4	4	1x20-mL	P	Activity Scan		(// (///				·····	None	
													<b>****</b>		
											***************************************				
·····															
													-		
						.,								,	
											······································				
														,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	<u> </u>														
Relinquished By D. P. CONN	Print	DC	Sign	OCT 2	o 2005	ime 1355	Received By  Jeff	Print Jensen	Sign St.T	20	Date/Time 2005 /355	<10 S = Soil	O OPA	DS = Dr	rum Solid
Relinquished By					Date/1	7.2.0.0	Received By		· ·		Date/Time	SE = Sedir SO = Solid SL = Sluds W = Wate	e		rum Liaui ssue ine
Relinquished By					Date/1	ime	Received By	-			Date/Time	O = Oil A = Air			egetation
Relinquished By				· · · · · · · · · · · · · · · · · · ·	Date/1	Time	Received By				Date/Time			-	
FINAL SAMPL		Method	l (e.g., Return to	customer, per	lab procedure	, used in proce	ess)		Disposed By		***************************************		Date/Time		-

PNNL					CHA	N OF	CUSTODY	SAMPLE ANALYS	IS REQUEST	C.O.C.		-010-2	24
										F	age <u>1</u>	of <u>1</u>	
Collector CON	NOTTY					Contact/Re			<b>Telephone No.</b> 509-376-5056	MSIN	FAX	-	
SAF No.	Management of the Control of the Con		***************************************			Sampling C	origin Hanfa	ord .	Purchase Order/Chars	ge Code	,		
S06-010 Project Title				<del></del>		-	TS-SAWS		Ice Chest No.	Tem	p.		
LTMC/SURV. O Shinned To (Lab)		)5				Method of			Bill of Lading/Air Bill	^ <u>5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5</u>			_
Severn Trent Inc. Protocol	ornorated, Ric	hland				Govt. Tri			Offsite Property No.				
SURV	T E HAZADI	NC (D) F	MADIZE				Pri	ority: 45 Days SPECIAL INSTRUCTIONS	Hold Time	Total Activity Ex		Voc V N	To T
POSSIBLE SAMP	LE HAZAKI	)S/KE	WAKKS		W	4799		SPECIAL INSTRUCTIONS	noid Time	Total Activity Ex	emphon:	res 🖭 IN	.0
					e ·								
Sample No.	Lab ID	*	Date	Time	No/Typ	e Container		Sample Analys	sis		Pres	ervative	
B1F1D6	-	W	10/20/5	1731	1x1000-r	nL P	906.0_H3_LSC: Tri	tium (1)	HM 936			None	
B1F1D6		W		1	1x1000-r	nL P	9310_ALPHABETA	_GPC: Alpha + Beta (2)				HNO3 to p	H <2
B1F1D6		W			1x20-mL	Р	Activity Scan		·			None	
B1F1D6		W			1x500-m	L P	9223_COLIFORM:	Coliform (1) 4.0	°C			Na2S2O3	Cool 4C
B1F1D6		W	1		2x4000-r	nL G/P	I129LL_SEP_LEPS	·····				None	
						***************************************		VIII.	THE STATE OF THE S				
		1											
		<b> </b>		-									
		-											
Holto		ļ						MINIOTO CONTRACTOR CON			-		
		<u> </u>		]				SANGERMAN MARKET AND THE STATE OF THE STATE					
Relinquished By  Do Po CON	NOLLY C	2	Sign	OCT 2	2005	Time 1355	Jeff .	Print Sign N	Date/Time	s <100	Matrix CPM	* DS = Dru	ım Solid
Relinquished By	/				Date	Time	Received By	7.17	Date/Time	SF. = Sedime SO = Solid SI. = Sludge W = Water	nt		rm Liani sue ne
Relinquished By					Date	Time	Received By		Date/Time	O = Oil A = Air		V = Veg X = Oth	getation ner
Relinquished By	1 2000				Date	Time	Received By		Date/Time		· · · · · · · · · · · · · · · · · · ·		
FINAL SAMPL	~   1.	Method	(e.g., Return to	customer,	per lab procedu	re, used in proc	ess)	Disposed By	And the state of t	Γ	Date/Time		



Date/T	ime Received:	10 20 05 1355		
. Client:	PGIA	SDG #: wof7	799 NA[] SAF#:	<u> 506-010</u> NA[]
Work (	Order Number:	J5J210189	Chain of Custody #	506-010-224, 162,156,15
Shippir	ng Container ID:_	BML 550	Air Bill #	
1.	Custody Seals o	on shipping container intact?	NA	[] Yes [] No []
2.	Custody Seals d	lated and signed?	- NA	.[] Yes [/] No[]
3.	Chain of Custod	iy record present?		Yes / No[]
4.	Cooler temperat	ture: 4.0 NA 6 5.1	Vermiculite/packing mater	Yes [ No [ ] rials is NA [ ] Wet [ ] Dry [ ]
6.		ples in shipping container:		
7.	Sample holding	times exceeded?	NA	[] Yes [] No []
8.	Samples have:tapecustody se	eals	hazard lab	pels te samples labels
9.	Samples are:	ondition	leaking have air b (Only for sample	ubbles es requiring head space)
10.	Sample pH taker	n? NA[] pH<2	pH>2 [/ pH>9	[]
11.		n, Sample Collector Listed? 'tion only. No corrective acti		Yes [ ] No [ ]
12.	Were any anoma	lies identified in sample rece	eipt?	Yes [] No []
13.	Description of an	nomalies (include sample nu	mbers):	
Sample (	Custodian:	1412	Date:	0 05
Clien	nt Sample ID	Analysis Requested	Condition	Comments/Action
Client Inf	ormed on	by	Person contacted_	
] No ac	ction necessary; pro	ocess as is.		
roject M	anager		Date	
0 550-2	/03 Pay 5			

PNNL						CHA	IN OF	CUSTODY/	SAMPLE ANA	ALYSIS F	REQUEST	C.O.C	A0	6-010-14
Collector							Contact/Re	n an actor	•		br. I N		Page 1	<u>of 1</u>
10 400	<u> </u>						Dot Stev	vart		······	<b>Telephone No.</b> 509-376-5056	MSIN	FAX	
SAF No. A06-010	90° 50 W						Sampling (	Origin			Purchase Order/Charg	e Code		
Project Title		***	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					TS-SA4U5-11	行ス		Ice Chest No.	アッ/ Ten	ip.	
PA OCTOBER, 20 Shinned To (Lab)	005						Method of		(-2		Bill of Lading/Air Bill	DA C	·	
Severn Trent Incor	norated Ric	nland.				MACCON CONTRACTOR OF THE PROPERTY OF THE PROPE	Gov't Tr							
Protocol Other	***							Prio	rity: 45 Days		Offsite Property No.			
POSSIBLE SAMPL ** **	E HAZARD	S/RE	MARKS	3		6047 75722 Due		०६	SPECIAL INSTRUCTION	ONS Hold	Time	Total Activity E	xemption:	Yes V No
Sample No.	Lab ID	*	Dat	e T	Time	<u> </u>	e Container		Sam	nple Analysis			Proc	amotivo
B1DYT4		w						906.0 H3 LSC: Tritiu					Fres	ervative None
B1DYT4		w	10-21	<u> </u>	12/8	1x1000-r	~! D		GPC: Alpha + Beta (2)	<u> </u>	NE5H	*******		
					The case of the ca				GPC: Alpha + Beta (2)					HNO3 to pH <2
B1DYT4		W		l		1x20-mL	Р	Activity Scan						None
B1DYT4		W			-	2x4000-n	nL G/P	I129LL_SEP_LEPS_	GS_LL: I-129 (1)					None
B1DYT4		W				1x500-m	LP	TC99_ETVDSK_LSC	: Tc-99 (1)					HCl to pH <2
B1DYT4		W	W		V	1x500-m	L G/P	UTOT_KPA: Uranium	1 (1)		**************************************			HNO3 to pH <2
											· · · · · · · · · · · · · · · · · · ·	***************************************		
				$\neg$						***************************************				
				/				I					1	<del></del>
Relinquished By J.G. HO: Relinquished By	Print GAN	7		Sign	<b>.</b> 001	Date/ Date/	05 1405	Received By  Jeff Jen  Received By	NMA	Sign OC	Date/Time 4.5	<100 S. = Soil SE = Sedime	1	*  DS = Drum Solid  DL = Drum Liqui
		ı	1 (								Duto, Time	SO = Solid SL = Sludge	,	T = Tissue WI = Wine
Relinquished By						Date/	Time	Received By	**************************************		Date/Time	W = Water O = Oil A = Air	3	I. = Liquid V = Vegetation X = Other
Relinquished By						Date/	Time	Received By		\	Date/Time			
FINAL SAMPLE DISPOSITION	Disposal M	lethod	(e.g., Reti	urn to ci	ustomer,	per lab procedur	e, used in proce	less)	Disposed	і Ву		. I	Date/Time	



Date/T	ime Received:	10 21 05 1905			
Client:	paw	SDG #:	9791 NA[]	SAF#: 406-010	NA[]
Work (	Order Number:	J5J220210	Chain of Custod	y#_ 406-010-14	
Shippir	ng Container ID:_	SAWS 212	Air Bill #		
1.	Custody Seals o	n shipping container intact	?	NA[] Yes [] No	[]
2.	Custody Seals d	ated and signed?		NA[] Yes[] No	[]
3.	Chain of Custod	y record present?		Yes // No [	
4.	Cooler temperat	ure:NA ʃ/ 5	.Vermiculite/packi	ng materials is NA[] W	<sup>7</sup> et [ ] Dry [/
6.	Number of samp	oles in shipping container:_		Manager	
7.	Sample holding	times exceeded?		NA [/] Yes [] No [	.]
8.	Samples have:tapecustody se	als		nzard labels opropriate samples labels	i
9.	Samples are:in good cobroken		Only fo	aking we air bubbles r samples requiring heac	i space)
10.	Sample pH taken	? NA[] pH<	2 [] pH>2 []	pH>9 []	
11.		, Sample Collector Listed? ion only. No corrective ac		Yes [] No	[]
12.	Were any anoma	lies identified in sample re	ceipt?	Yes[] No	rī
13.	Description of an	omalies (include sample n	umbers):	/	*
Sample (	Custodian:	MI	Date:	2105	
Clier	nt Sample ID	Analysis Requested	Condition	Comment	s/Action
Client Info	ormed on	by	Person co	ntacted	
] No ac	tion necessary; pro	ocess as is.			
roject Ma	nager		Date		
S_023_0/	'O3 Pay 5				

PNNL				!	СНАІ	N OF (	CUSTODY	SAMPLE ANALYSIS F	REQUEST	C.O.C. #	S06-010-210 ge <u>1</u> of <u>1</u>
Collector D. P. CONN	A 2 2 2 2					Contact/Re			Telephone No.	MSIN	FAX
SAF No.	<del>VIII.</del>		· /			Dot Stew Sampling C			509-376-5056 Purchase Order/Charge (	Code	
S06-010 Project Title			-				DTS-SAL	- UCA)	Ice Chest No.	Temp.	***************************************
LTMC/SURV, OCTO Shinned To (Lab)	DBER 2005	5			-	Method of			Ice Chest No. SML - Bill of Lading/Air Bill No		
Severn Trent Incorno	rated Rich	land				Goyt. Tru				•	
Protocol SURV							Pri	ority: 45 Days	Offsite Property No.		
POSSIBLE SAMPLE	HAZARD	S/REI	MARKS	j	10479	9		SPECIAL INSTRUCTIONS Hold	Time To	otal Activity Exen	nption: Yes 🗹 No
					5J221						
						12 05					
		. 1					05			T.	
Sample No. B1F1B5	Lab ID	* W	Date	Time	No/Type 1x20-mL	Container	Activity Scan	Sample Analysis	1		Preservative None
			10/21/5					HNES3			
B1F1B5		W	4	4	1x500-mL	. P	TC99_ETVDSK_LS	C: Tc-99 (1)	7		HCI to pH <2
								9.700			***************************************
							-				
								<u> </u>			
						***************************************					
						· · · · · · · · · · · · · · · · · · ·					
						1 17	102109				
Relinquished By	Print		Sign		Date	Time / 350	Received By	Print Sign	Date/Time 1350	2101	Matrix *
D.P.CONN	OLLY	J.	~ nr.T	2 1 20	05 / 1	455	L	Bin50- 017 21	2005 /4-50	$\frac{2}{S}$ < 100 C	DS = Drum Solid
Relinquished By			/	200	Date/	Time	Received By		Date/Time	SE = Sediment SO = Solid	DI. = Drum Liqui T = Tissue
										SL = Sludge W = Water	WI = Wine I. = Liquid
Relinquished By		-			Date/	Гime	Received By		Date/Time	O = Oil A = Air	V = Vegetation X = Other
D.F			-		Date/	Time o	Pagaired By		Date/Time		
Relinquished By					Date/	i niic	Received By		Date i line		
FINAL SAMPLE DISPOSITION	Disposal M	ethod	(e.g., Return to	customer, per	lab procedure	e, used in proce	ess)	Disposed By		Date	e/Time

PNNL					CHAII	N OF (	CUSTODY/S	SAMPLE ANALY	SIS RI	EQUEST	C.O.C	S0	06-010-'	74
Collector. P. CC	MNO					Contact/Re	agnester		- In	elephone No.	MSIN	Page 1 FAX	of <u>1</u>	_
. ,-1	A77-	*				Dot Stew	vart			509-376-5056		FAA		
SAF No. S06-010						Sampling C	Origin Hanfox	~d	P	urchase Order/Charg	e Code			1
Project Title									Ic	e Chest No.	Ter	np.		
LTMC/SURV. OG Shinned To (Lab)	CTOBER 200	5					rs-saws	<u> </u>		SMC-S	20			
Severn Trent Inco	morated. Ric	hland				Method of Govt. Tri			B	ill of Lading/Air Bill I	No.			
Protocol SURV							Prio	ority: 45 Days	О	ffsite Property No.				
POSSIBLE SAMPI	LE HAZARI	S/RE	MARKS	WO	4799	The second secon		SPECIAL INSTRUCTIONS	Hold T	ime	Total Activity E	xemption:	Yes 🗹 No	0
Sample No.	Lab ID	*	Date	Time	No/Type (	Container		Sample Ana	nalvsis			Pres	servative	
B1F193		W			1x1000-mL		906.0_H3_LSC: Tritiu	um (1)		~	Weight the	1 - 1 - 1	None	
B1F193		w	10/21/5	1000	1x20-mL F	5	Activity Scan		HNES'			110000	None	
B1F193		W			2x1000-mL	G/P	C14_LSC: C-14 (1)			enwan			None	
B1F193	-	W	4	Ÿ	1x1000-mL	- P	9310_ALPHABETA_	GPC: Gross Beta (1)					HNO3 to pH	┥<2
									A A A A A A A A A A A A A A A A A A A	Antonia de la companio del companio de la companio del companio de la companio della companio de la companio della companio de				
								A A ALL PERSONS						
AT ( - 2004)														
1.108499999111103								- Indiana - Indi			*			
									······					
							2006		-Dida so	- A definition	·· (in			
	I			1		. 2 6	2102105	L. L		. 1350	PL102109			
Relinquished By Relinquished By	Print NOLLY	[j]	Sign NC.	T 2 1 2	Date/Ti	H50	Received By  DAVID HAP!  Received By	Print Sign C	T_2 1 2	Date/Time	S SPIO SE = Sedin SO = Solid	Matrix Q. CPN	DS = Drum	m Solid m Liani
Relinquished By			- AMERICAN AND AND AND AND AND AND AND AND AND A		Date/Ti	ime	Received By			Date/Time	SI. = Sludg W = Water O = Oil A = Air		WI = Wine I. = Liqui V = Vege X = Othe	e rid retation
Relinquished By					Date/Ti	ime	Received By	**************************************		Date/Time				
FINAL SAMPLE DISPOSITION	Disposal I	Method	(e.g., Return to	customer, per	lab procedure,	used in proce	ess)	Disposed By	-			Date/Time		

# SEVERN STL

					106-001	
Date/Time	Received:	10 21 05 1350			506-010	
Client:	Phw	SDG #: WOY	7799 NAII	SAF#	406-001 Ins-mag N	[ ] [ ]
Work Orde	er Number:	35220217	Chain of Custoc	ly#_ <i>I06</i>	-00/-172	406-001-5
Shipping C	Container ID:_	5ML 550	Air Bill #	506-	010 -74,210	105-049-13
1. C	المستعدد					•
1.	ustody Seats o.	n shipping container intact	1'?	NA[]	Yes [ ] No [ ]	
2. Cı	ustody Seals di	ated and signed?		- NA[]	Yes [] No []	
3. Ci	hain of Custod	y record present?		•	/ Yes [/ No []	
4. Co	ooler temperati	ure:NA[/] 5	.Vermiculite/packi	ng material	s is NA [] Wer [	1 Dry (2°
		les in shipping container:_				1.219 (2)
7. Sa	mpie noiding t	imes exceeded?		NA [/]	Yes [ ] No [ ]	
	mples have:					
	tape custody sea	ıls		azard labels	amples labels	
_/	mples are: in_good corbroken	ndition		ive air bubt	oles equiring head space	ce)
10. Sar	nple pH taken'	? NA[] pH<	2 [/ pH>2 [/	pH>9[]		
		Sample Collector Listed? on only. No corrective ac			Yes [ ] No [ ]	
12. We	re any anomali	es identified in sample rec	ceipt?		Yes[] No[/	
13. Des	scription of and	omalies (include sample nu	ımbers):			
-						
Sample Custo	odian:	949	Date:	210		Martine and the second
Client Sa	mple ID	Analysis Requested	Condition		Comments/Acti	ion )
			30.134.101		Confinents/Acti	ION
Client Informe	d on	by	Person con	utacted	<b>b</b>	
	necessary; prod		1 CISON COL			AAA 743 - A
	•		<b>D</b>			
			Date			
LS-023, 9/03, I	Rev. 5					

PNNL					CHAIN OF	CUSTODY/S	SAMPLE ANALYSIS	REQUEST		06-001-172 1 of 1
Collector D. P. C	CONNO	lY		,,,	Contact/R	equester		Telephone No.	MSIN FAX	
SAF No.	, , , , , , ,			· · · · · · · · · · · · · · · · · · ·	Dot Stev Sampling			509-376-5056 Purchase Order/Charge	e Code	
I06-001 Project Title							100			
CERCLA 100KR	4IAM(1)/(2)	100 N	R2IAM ISRN	1		TS-SAW	2 × Hd.8	Ice Chest NoSMC-		
Shinned To (Lab) Severn Trent Inco	proprated_Ric	hland		ACTION DESCRIPTION OF PROPERTY	Method of Govt. Ti	f Shipment ruck		Bill of Lading/Air Bill I	Ňo.	
Protocol CERCLA		Marie Control of the	de de la companya de		and the second s	Prio	rity: 45 Days	Offsite Property No.		
POSSIBLE SAMPI	LE HAZARI	S/RE	MARKS	2	1 759	THE STATE OF THE S	SPECIAL INSTRUCTIONS H	lold Time	Total Activity Exemption	n: Yes 🗸 No 🗆
** **					10 4799 J220 219					
						_				
	1	1		<i>D</i> .	ne 12 05	05				
Sample No.	Lab ID	*	Date	Time	No/Type Container		Sample Analysis		· Pı	reservative
B1F392		W	iolzils	1055	1x1000-mL P	906.0_H3_LSC: Tritiu	ım (1)	HNE 6F		None
B1F392		W		1	1x20-mL P	Activity Scan				None
B1F392		W			1x1000-mL P	9310_ALPHABETA_0	GPC: Alpha + Beta (2)			HNO3 to pH <2
B1F392		W	4	14	3x1000-mL G/P	GAMMA_GS: List-1 (	10)			HNO3 to pH <2
									-	
		<b> </b>					A A A A A A A A A A A A A A A A A A A			
								4.400		:
								AND	and the second s	
								-		
		<del>-  </del>								
		<b>†</b>								
	1					-102105	·		- 102105	
Relinquished By D. P. CONN	Print OLLY		Sign	OCT 2	Date/Time /35	Received By	Print Sign	Date/Time /39		iv/*
Relinquished By	4	/			Date/Time	Received By	nsocy oct	Date/Time	S = Soil SE = Sediment SO = Solid SI = Sludge W = Water	DS = Drum Solid DL = Drum Liqui T = Tissue WI = Wine L = Liquid
Relinquished By					Date/Time	Received By		Date/Time	O = Oil A = Air	V = Vegetation X = Other
Relinquished By		·········			Date/Time	Received By		Date/Time		
FINAL SAMPLE DISPOSITION	E Disposal l	Method	(e.g., Return to	customer, per	lab procedure, used in pro-	cess)	Disposed By		Date/Time	



Date/T	ime Received:	10 21 05 1350	)		•	06-010	
					u	06-001	
Client:	phw	SDG #: <u></u>	09799	NA[] S	AF #:_ <i>Ic</i>	05-049 N	A[]
Work (	Order Number:	755220219	Chai				406-001-5
Shippir	ng Container ID:	5ML 550	Air B	ill #	506-0,	10 -74,210	105-049-13
1.	Custody Seals	on shipping container into	ict?		NA[]	(es [] No []	
2.	Custody Seals	dated and signed?				(es [] No []	
3.	Chain of Custo	dy record present?			•	(es [] No []	
4.	Cooler tempera	ture:NA [/]	5.Vermic	culite/packing	materials i	s NA[] Wet[	].Dry [ <b>]</b> *
6.	Number of sam	ples in shipping containe	r:	22	*****		
7.	Sample holding	times exceeded?			NA / Y	'es [] No []	
8.	Samples have:tapecustody s	eals			ard labels opriate san	nples labels	
Э.	Samples are:in-good cobroken				air bubble	s Juiring head spa	ce)
10.	Sample pH take	n? NA[] pI	H<2 [/	pH>2 // F	H>9[]		
11.		n, Sample Collector Liste tion only. No corrective		eded.		Yes [ ] No [ ]	
,2.	Were any anoma	alies identified in sample	receipt?		•	Yes [] No [	
3.	Description of a	nomalies (include sample	: numbers)				
ample (	Custodian:	MI			21 05		
Clie	nt Sample ID	Analysis Requested		Condition		Comments/Act	ion
lient Inf	ormed on	by		Person conta	icted		
] No a	ction necessary; pr	rocess as is.					
roject M	anager	**************************************		_ Date			
ם בכת-2	/03 Rev 5						

PNNL					CHAIN OF	CUSTODY/SAMPLE ANALYSIS REQUEST	A06-010-22
							Page <u>1</u> of <u>1</u>
	THATEK					Requester Telephone No.	MSIN FAX
SAF No. A06-010	2 BAE	wiin			Dot St Sampling		Code
Project Title	***************************************				Low	reck DTS-SALUS-1493 Ice Chest No. SUL 5	Temp.
PA OCTOBER, 20 Shinned To (Lab)	005					of Shipment Bill of Lading/Air Bill No.	8 7
Severn Trent Inco	morated. Ric	hland			Gov't	Truck	West and the second sec
Protocol Other						Priority: 45 Days  Offsite Property No.	
POSSIBLE SAMPL	E HAZARI	S/RE	MARKS	/	4799	SPECIAL INSTRUCTIONS Hold Time T	otal Activity Exemption: Yes 🗹 No
					4799		
				VDJ.	250137		
				Vice	12 08 05		
Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1DYT7		W	10-24-65	1027	1x1000-mL P	906.0_H3_LSC: Tritium (1)	None
B1DYT7		W	1	1	1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B1DYT7		W	)		1x20-mL P	Activity Scan	None
B1DYT7		W			2x4000-mL G/P	!129LL_SEP_LEPS_GS_LL: I-129 (1)	None
B1DYT7		W		and the second	1x500-mL P	TC99_ETVDSK_LSC: Tc-99 (1)	HCI to pH <2
B1DYT7		W	1	4	1x500-mL G/P	UTOT_KPA: Uranium (1)	HNO3 to pH <2
			A/	<u></u>	illi	la KKI	
Relinquished By  DURATEK	Print	ا ب	Sigh MWW_	N- 01	Date/Time / / 7  T 2 4 2005	Received By Print Sign OCT 2 4 2005	<100 CPM DS = Drum Solid
Relinquished By	winksic	***			Date/Time	Received By Date/Time	S         = Soil         DS         = Drum Solid           SE         = Sediment         DL         = Drum Liqui           SO         = Solid         T         = Tissue           SI         = Sludge         WI         = Wine           W         = Water         L         = Liquid
Relinquished By	,				Date/Time	Received By Date/Time	O = Oil V = Vegetation A = Air X = Other
Relinquished By	······				Date/Time	Received By Date/Time	
FINAL SAMPLE DISPOSITION	Disposal N	Method	(e.g., Return to	customer, per	lab procedure, used in pro	Disposed By	Date/Time

PNNL					CHAIN	OF (	CUSTODY	SAMPLE	ANALYS	SIS RI	EQUEST	C.		.06-010	***************************************
	URATEK		<u>L</u>		Co	ntact/Re	quester			Т	elephone No.	MSIN	FAX	1 of 1	<u> </u>
g-	, A. BRE	MING	TON			Dot Stew	art		- 6 44.46		509-376-5056		A. 1. 1.2.1		
SAF No. A06-010					Sa	mpling (	rigin			P	Purchase Order/Charge Code				
Project Title					7	-1	ル カナC.	610-7	Id	Ice Chest No. Sunce Gge Temp.					
PA OCTOBER. Shinned To (Lab)						Method of Shipment							·		
Severn Trent Inc		hland		21000000000000000000000000000000000000		Gov't Truck					ill of Lading/Air B	ill No.			
Protocol	otocol						Priority: 45 Days Offsite Property					•			
	Other DSSIBLE SAMPLE HAZARDS/REMARKS							SPECIAL INST	POLICITIONS	Hold T	**	Total Activi		77	
** **		<del> </del>	A P. Company	l	wo 4799	?						-			
Sample No.	Lab ID	*	Date	Time	No/Type Co	ontainer			Sample Anal	ysis			Pr	eservative	
B1DYT8		W	10-24-05	0000	1x1000-mL F	<b>)</b>	906.0_H3_LSC: Trit	ium (1)		HNHI	V		····	None	
B1DYT8		w	10 27 4 y	1	1x1000-mL F	<b>5</b>	9310_ALPHABETA	_GPC: Alpha + Beta	a (2)	(7 N 11 ·	<b>y</b>		***************************************	HNO3 to	pH <2
B1DYT8		w	Miter - WA GELFE		1x20-mL P		Activity Scan						***************************************	None	
B1DYT8		w			2x4000-mL G	G/P	I129LL_SEP_LEPS	GS_LL: I-129 (1)						None	
B1DYT8		w	- Park		1x500-mL P		TC99_ETVDSK_LS	C: Tc-99 (1)						HCl to pl	H <2
B1DYT8		w			1x500-mL G/	/P	UTOT_KPA: Uraniu	m (1)				***************************************		HNO3 to	pH <2
					-										
						was									
***************************************															
													···		
			<u> </u>			11/1/1/2						4.6			
Relinquished By  DURATER  Relinquished By		11.1	Y Mign	who	Date/Time	20 <b>95 `</b>	Received By Jensen Received By	Print	Sign		Date/Time / G	<u>5</u> <100	Matri CPM ediment	DS = D	Drum Solie Drum Liau
хониционец Бу				Standard Comments	Date/ I file	•	icocivou by		, ,		Date Hill	SO = So St. = St	olid udge		issue Vine
Relinquished By					Date/Time	e	Received By			***************************************	Date/Time	O = O A = A	iI		egetation
Relinquished By					Date/Time	e	Received By	·			Date/Time				

FINAL SAMPLE Disposal Method (e.g., Return to customer, per lab procedure, used in process)
DISPOSITION

Disposed By

Date/Time

PNNL										6-010-6				
				<u> </u>					· · · · · · · · · · · · · · · · · · ·		_	Pa		of <u>1</u>
Collector	URATEK						Contact/Re				Telephone No. 509-376-5056	MSIN	FAX	
SAF No. [1]	). R. BREV	MMC	370	Ŋ.		***************************************	Sampling C				Purchase Order/Charge	Code		
Project Title	2005						Losbor	of Dre	5-5AW5-H9	7	Ice Chest No. SMC-	Temp.	•	
PA OCTOBER. Shinned To (Lah)	2005						Method of	Shipment	JA1007/17 1		Bill of Lading/Air Bill N			
Severn Trent Inc	ornorated. Ric	oland	Version de la company				Gov't Tru					-		
Protocol Other								Prio	rity: 45 Days		Offsite Property No.			
POSSIBLE SAMP ** **	SSIBLE SAMPLE HAZARDS/REMARKS **  **						4799		SPECIAL INSTRUCTIO	NS Hold	l Time	Total Activity Exe	mption: Yes	s 🗸 No
			·					<del></del>	10-110 20-1111				r	
Sample No.	Lab ID	*	Ι	Date	Tir	ne No/7	Type Container		Samp	le Analysis			Preserva	ative
B1DYT0		W	10-	24-05	120	of 1×100	00-mL P	906.0_H3_LSC: Tritic	ım (1)	HN	1 HIW		No	one
B1DYT0		W		cipioni	Ì	1x100	00-mL P	9310_ALPHABETA_	GPC: Alpha + Beta (2)				HI	NO3 to pH <2
B1DYT0		W		and construction of the co	-	1x20-	mL P	Activity Scan					No	one
B1DYT0		W				2x400	00-mL G/P	I129LL_SEP_LEPS_	GS_LL: I-129 (1)				No	one
B1DYT0		W	COSCORICAGO			1x500	)-mL P	TC99_ETVDSK_LSC	: Tc-99 (1)			···	HC	CI to pH <2
B1DYT0		W	لمسر			1x500	)-mL G/P	UTOT_KPA: Uranium	(1)				HI	NO3 to pH <2
							ate/Time	<b>&gt;</b>			Date/Time /4/4	-		
Relinquished By	6	1	. 1	,Sign  }}\\\	mel		ate/Time//9/200		Print Sig		Date/Time / //4 DCT 2.4 2005	<100 CI		
Relinquished By	A 10 00 20 cm . Z	100	<u> </u>	10 \		<del></del>	ate/Time	Received By		, <u>.</u>	Date/Time	S = Soil SE = Sediment SO = Solid SL = Sludge W = Water	DS DL T WI	= Drum Solid = Drum Liqui = Tissue = Wine = Liquid
Relinquished By						E	rate/Time	Received By			Date/Time	O = Oil A = Air	V X	= Vegetation = Other
Relinquished By			<del></del>			Г	ate/Time	Received By		······	Date/Time			
FINAL SAMPLI		lethod	(e.g., I	Return to	custome	r, per lab proce	dure, used in proce	ess)	Disposed F	Зу		Da	te/Time	***************************************



Date/T	ime Received:	102405 1440			
Client:	ρ	4w SDG#: 409	<u>7799</u> NA[] S	AF#: <u>A06-010</u>	NA[]
Work (	Order Number:	155250137	Chain of Custody	# <u>106-010-23</u>	22,6
Shippin	ng Container ID:_	SML5 84	Air Bill #		-
1.	Custody Seals o	n shipping container intact	?	NA[] Yes[/] No	[]
2.	Custody Seals d	ated and signed?		NA[] Yes[] No	[]
3.	Chain of Custoc	y record present?		Yes [] No	
4.	Cooler temperat	ure:NA [/] 5.	Vermiculite/packing	materials is NA[] 7	Vet [ ] Dry [/
6.	Number of samp	oles in shipping container:_	2/	<del>rdina</del>	
7.	Sample holding	times exceeded?		NA [] Yes [] No	
8.	Samples have:tapecustody se	als		ard labels ropriate samples label	s
9.	Samples are: •broken	ndition		ing e air bubbles samples requiring hea	d space)
10.	Sample pH taker	n? NA[] pH<	2[] pH>2/[] 1	oH>9 [ ]	
11.		, Sample Collector Listed? ion only. No corrective ac		Yes [ ] No	)[]
12.	Were any anoma	lies identified in sample rec	eipt?	Yes[] No	N
13.	Description of an	omalies (include sample nu	ımbers):		•
···				/	
Sample (	Custodian:	If J	Date:	2405	
Clie	nt Sample ID	Analysis Requested	Condition	Commen	ts/Action
					H-190
Client Inf	ormed on	by	Person contr	ncted	
] No a	ction necessary; pro	ocess as is.			
roject M	anager		Date		_
S-023 9	/03 Rev 5				

PNNL					CHAIN OF	CUSTODY/	SAMPLE ANALY	SIS R	EQUEST	C.O.C. #	106-001-100		
Collectors CO	11810919				Contact/	Requester	***************************************	. k	Telephone No.	MSIN	$\frac{\text{age}  \underline{1}  \text{of}  \underline{1}}{\text{FAX}}$		
SAF No.	Will be the way of the territory of		<del> </del>		Dot St Samplin		<u> </u>		509-376-5056 Purchase Order/Charge	Code			
I06-001						HAN	Ford	1					
Project Title CERCLA 100KR	4IAM(1)/(2)	100 NR21	IAM ISRM			DTS-SAW	8- H48		Ice Chest No	SSO Temp.	•		
Shinned To (Lab) Severn Trent Inco					Method Govt.	of Shipment			Bill of Lading/Air Bill N	0.			
Protocol	srborarea. Ric	niano			GOVL		ority: 45 Days		Offsite Property No.				
CERCLA POSSIBLE SAMP	LE HAZARI	S/REM	ARKS		20 4799		SPECIAL INSTRUCTIONS	Hold	Time	Total Activity Exe	mption: Yes 🗹 No 🗌		
** **					155250143						·		
					Due 12 0	_							
Sample No.	Lab ID	*	Date	Time	No/Type Containe		Sample Ana	alveie			Preservative		
B1F356	Lab ID	1,,/	, ,		1x1000-mL P	906.0_H3_LSC: Tritio		***************************************			None		
B1F356		W	2/24/5	1117	1x20-mL P	Activity Scan		HNF	1/6		None		
B1F356		W	_		3x1000-mL G/P	SRISO_SEP_PRECI	IP GPC: Sr-90 (1)				HNO3 to pH <2		
		w			1x1000-mL P		GPC: Alpha + Beta (2)				HNO3 to pH <2		
B1F356				<u> </u>		-							
B1F356		W	4	4	3x1000-mL G/P	GAMMA_GS: List-1 (	(10)				HNO3 to pH <2		
							·						
	-												
		T							-				
<u></u>	<u> </u>	<u> </u>			1		The second secon		A CONTRACTOR OF THE CONTRACTOR				
Relinquished By	Print	170	Sign	CT 24	2005 //47	Received By	off Jensen Sign	OCT	Date/Time 2 4 2005 / 143	<100 (	DS = Drum Solid		
Relinquished By				V	Date/Time	Received By	. ////		Date/Time	SE = Sediment SO = Solid SL = Sludge W = Water			
Relinquished By		111111111111111111111111111111111111111			Date/Time	Received By		****	Date/Time	O = Oil A = Air	V = Vegetation X = Other		
Relinquished By					Date/Time	Received By			Date/Time	· · · · · · · · · · · · · · · · · · ·	st Additional Control		
FINAL SAMPLI DISPOSITION		Method (e.	g., Return to	customer, per	r lab procedure, used in p	Torocess)	Disposed By		- William Control of the Control of	Da	ate/Time		



Date	Time Received:	102905 1430		50b-010	
Clier	nt: Paw	SDG #:_ W047	<u>'99</u> NA[] SAF#		
Work	Order Number:	J55250143	Chain of Custody #	06-010-168,169 506-00	1-100
		SML 550		•	
1.		on shipping container intact?		[] Yes [] No []	
2.	Custody Seals d	ated and signed?	- NA	[] Yes [/] No []	
3.	Chain of Custoc	ly record present?	;	Yes [/] No [ ]	
4.	Cooler temperat	ure: 4.0 NA[] 5.1	J /ermiculite/packing mate	rials is NA[] Wet[] Dry []	
6.		oles in shipping container:			•
7.	Sample holding	times exceeded?	NA	.[] Yes [] No [/]	
8.	Samples have:			,	
	tape custody se	eals	hazard la appropria	bels te samples labels	
9.	Samples are:in good co	ondition	leaking have air b (Only for samp	oubbles es requiring head space)	
10.	Sample pH taker	n? NA[] pH<2	[/ pH>2/ pH>9		
11.		i, Sample Collector Listed? * ion only. No corrective acti	,	Yes [ ] No [ ]	
12.	Were any anoma	lies identified in sample rece	eipt?	Yes[] No[]	
13.	Description of ar	nomalies (include sample nur	mbers):		
	***************************************				
Sample	e Custodian:	147	Date:	905	
CI	ient Sample ID	Analysis Requested	Condition .	Comments/Action	
Client I	nformed on	by	Person contacted		
	action necessary; pr		· · · · · · · · · · · · · · · · · · ·		
Project	Manager	The fall of the fa	Date		
LS-023,	, 9/03, Rev. 5				

PNNL					CHAI	N OF	CUSTODY	SAMPLE ANAL	YSIS F	REQUEST	C.O.C. #		010-169
		<del></del>		dentitie								ige <u>1</u>	of <u>1</u>
Collector	NOLLY					Contact/Re Dot Stew				<b>Telephone No.</b> 509-376-5056	MSIN	FAX	
SAF No.		•	-			Sampling (		2-1		Purchase Order/Charge	e Code		
S06-010 Project Title						P	rs - SAW			Ice Chest No. SAXC-	SSO Temp.	•	
LTMC/SURV. O Shinned To (Lab)		na n				Method of				Bill of Lading/Air Bill N			
Severn Trent Inc. Protocol	ornorated. Ric	hland				Govt. Tri			*	Offsite Property No.			
SURV POSSIBLE SAMP	TE HAZADI	NC/DTE	MADIZE	maintere e .			Pri	ority: 45 Days SPECIAL INSTRUCTIONS	blo <b>W</b> 2		Total Activity Exe	mation: \	Ves V No
POSSIBLE SAMP	LE HAZAKI	)5/RE)	VIARRS	5	NO 479 155250	145		SPECIAL INSTRUCTIONS		Time	Total Activity Exc.	inpuon.	res 🖭 No 🗀
					Due 1.	2 08 0	25						
Sample No.	Lab ID	*	Date	Time	No/Type	Container		Sample	Analysis			Prese	rvative
B1F1C5		W	10/24/5	රපිර	1x1000-m	LP	906.0_H3_LSC: Tri	tium (1)		HNH18			None
B1F1C5		W	1	1	1x1000-m	L P	9310_ALPHABETA	_GPC: Alpha + Beta (2)		1,7,1,9,1,9			HNO3 to pH <2
B1F1C5		w		1000	1x20-mL	Р	Activity Scan			* *************************************			None
B1F1C5		W	<b>V</b>	1	1x500-mL	Р	9223_COLIFORM:	Coliform (1) 4.0 °C				.	Na2S2O3 Cool 4C
											WWW.		
				·									
								,					
											······································		
L	1			<u></u>			<u> </u>					1	
Relinquished By	Print	N	Sign	OCT 2	2005	1438	Received By  Jeff Jo	Print Sign Ensen	OCT 2	Date/Time 2005 1930	<100 (		os = Drum Solid
Relinquished By	To the second se	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Date/1	Гіте	Received By	////		Date/Time	SE = Sediment SO = Solid SL = Sludge W = Water	Т	DI. = Drim Liqui  = Tissue  VI = Wine  = Liquid
Relinquished By	-				Date/	Γime	Received By			Date/Time	O = Oil A = Air	V X	7 = Vegetation
Relinquished By			.,		Date/	Гіте	Received By			Date/Time	ivenesses sommentenesses.		
FINAL SAMPL		Method	(e.g., Return to	customer, pe	r lab procedure	e, used in proc	ess)	Disposed By			Da	nte/Time	

PNNL	CE						CUSTODY/S	SAMPLE ANAL	REQUEST	S06-010-168  Page 1 of 1			
Collector P. CO	NINIOI I V					Contact/Re				Telephone No. MSI	1		
SAF No.	EANACPPE					Dot Stew Sampling (	vart Origin Hanfo		***************************************	509-376-5056 Purchase Order/Charge Code			
S06-010 Project Title		140			,		.,77(10			Ice Chest No	Chest No. SML - 550 Temp.		
LTMC/SURV. ( Shipped To (Lab)		)5				Method of	CL:	L. MANUEL		****	x cxxp.		
Severn Trent Inc		hland				Govt. Tr				Bill of Lading/Air Bill No.			
Protocol SURV							Prior	ity: 45 Days		Offsite Property No.	,		
POSSIBLE SAMF ** **	PLE HAZARI	OS/RE	EMARKS		W047	99		tivity Exemption	: Yes 🗹 No 🗔				
Sample No.	Lab ID	*	Date	Time	No/Type	Container		Sample A	Analysis		Pr	eservative	
B1F1C4	-	W	10/24/5	1351	1x1000-m	L P	906.0_H3_LSC: Tritiu	m (1)	1-1	NH2C		None	
B1F1C4	*	W	1	<del>,</del>	1x1000-m	L P	9310_ALPHABETA_0	GPC: Alpha + Beta (2)		1,1,1,1		HNO3 to pH <2	
B1F1C4		W			1x20-mL	P	Activity Scan					None	
B1F1C4		W	1	4	1x500-mL	Р	9223_COLIFORM: Co	liform (1) 4.0 °C				Na2S2O3 Cool 40	
			,										
	. %										****		
•								-			CONTRACT CONTRACTOR		
	-												
-	- :												
	·												
Belinguished BONI	NOLL V <sup>Print</sup>	) C	Sign	nct 2	Date/7	Time / 143 a	Received By  Jeff Je	Print Sign		T 74 ZUUY/720s =	100 CPW	DS = Drum Solid	
Relinquished By		/			Date/	Гime	Received By			SO = St. =	Sediment Solid Sludge	DI. = Drum Liqui T = Tissue WI = Wine	
Relinquished By				ALE ATTEMPT CONTRACT	Date/	rime .	Received By			Date/Time W =	Water Oil Air	I. = Liquid V = Vegetation X = Other	
Relinquished By				,	Date/	Time	Received By	. 2	······································	Date/Time			

FINAL SAMPLE DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By

Date/Time



		10 29 05 1430 SDG#:	4709	506-010
				- <del></del>
Shippi	ing Container ID:	3mL 550	Chain of Custody #	506-010-168,169 506-001-1
1.		on shipping container intact?	'N	A[] Yes [ ] No[]
2.	Custody Seals	dated and signed?	· NA	A[] Yes [/] No[]
3.	Chain of Custo	dy record present?		Yes [/] No []
4.	Cooler tempera	ture: 4.0 NA[] 5.\	 /ermiculite/packing mate	res [] No [] erials is NA [] Wet [] Dry []
6.		ples in shipping container:		•
7.	Sample holding	times exceeded?	NA	[] Yes [] No [/]
8.	Samples have:			
	tape	ealc	hazard la	
9.		cars	appropria	ate samples labels
9.	Samples are: ·	ondition	leaking	
	broken		have air b	oubbles les requiring head space)
10.	Sample pH takes	π? ΝΑ[] nH-2	[] pH>2][] pH>9	• •
11.	,		· · · · · · · · · · · · · · · · · · ·	_
11.		n, Sample Collector Listed? * tion only. No corrective action		Yes [/] No []
12.	Were any anoma	ilies identified in sample rece	ipt?	Yes[] No []
13.	Description of ar	nomalies (include sample nun	nhers):	<i>₹</i>
····				
		4 . 2		
Sample (	Custodian:	JA 7	Date:	905
Clie	nt Sample ID	Analysis Requested	Condition	Comments/Action
Client Info	orined on	by	Person contacted	·
	ction necessary; pro			
roject M	anager		Date	
	/03, Rev. 5			

11/21/2005 8:30:23 AM	Sam	ple Pre	paration/An	alysis		Balance Id:1120482733							
384868, Pacific Northwest National Lab	oortories ,	BN I-129 Prp/Sep					Pipe	t #:					
Report Due: 12/08/2005 [ / ] ()4	744	TB Gamma by L 5I CLIENT: HAN					Sep1 DT/Tm Ted	ch:					
Batch: 5299629 WATER	pCi/L	San Charles Control of the Control o	PM.	Quote: SS , 57	671		Sep2 DT/Tm Tec	ch·					
SEQ Batch, Test: None	<b>P</b>		- ····,	,			Prep Tech: ,GiroirB						
Work Order, Lot, Sample DateTime Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min		ount On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:				
1 HM6AF-1-AE	3910.60g,in	ITA4799	IFA	J	100	14	12	26 12	2105 R				
J5J200181-1-SAMP		11/10/05		34.9		**************************************							
10/19/2005 10:17	AmtRec: 2	0ML,2X500,2XLP,2X4LP	#Container:	s: 7	وخت بيد دا ويحتمهون	Scr:	Alpha: -2.25E-03 uC	i/Sa Bet	a: 1.05E-03 uCi/Sa				
2 HM6AQ-1-AE	3940.00g,in	ITA4812				142105	(15 12	27 IZ	12/05 R				
J5J200181-2-SAMP		11/10/05	A PARTICIPATION OF THE PARTICI	35. 1	and of control of the	K-71-	י בי וא	a T					
10/19/2005 08:15	AmtRec: 2	 0ML,2X500,2XLP,2X4LP	#Container	s: 7		Scr:	Alpha: -9.69E-04 uC	i/Sa Beta	a: -1.45E-03 uCi/Sa				
3 HM6AX-1-AE	3921.10g,in	ITA4801				Ú	1 111	126	2/05 n				
J5J200181-3-SAMP		11/10/05	nem consolution of	35,6	***/Discourages	O	1 1411	(2)	2/02 0-				
<b>                                  </b>	AmtRec: 2	0ML,2X500,2XLP,2X4LP	#Container	s: 7		Scr:	Alpha: -2.49E-03 uC	:i/Sa Bet	a: 3.94E-04 uCi/Sa				
4 HM6CN-1-AE	3830.60g,in	ITA4802				1.0			Las				
J5J200184-1-SAMP	J.	11/10/05	***************************************	35.4	PART PROPERTY.		1913	12/2	100				
<b></b>	AmtRec: 2	 0ML,2X500P,2XLP,2X4L	P #Containe	rs: 7		Scr:	Alpha: -2.61E-03 uC	:i/Sa Bet	a: 1.32E-03 uCi/Sa				
5 HM6CR-1-AE	3852.00g,in	ITA4803				4.	2.2		2/2/05 N				
J5J200184-2-SAMP	O,	11/10/05	**Olivieraaakoos.	35,8	Office the second	_	4 155		21-100.				
<b></b>	AmtRec: 2	0ML,2X500P,2XLP,2X4L	P #Containe	rs: 7		Scr:	Alpha: 1.03E-03 uC	i/Sa Beti	a: -1.32E-03 uCi/Sa				
6 HM6CV-1-AE	3920.00g,in	ITA4813		^-		1	,,,,,		12/05 2				
J5J200184-3-SAMP	<b>J</b> ,	11/10/05		33.4			D 150.	+ 12	14102				
<b>                                  </b>	AmtRec: 2	 0ML,2X500P,2XLP,2X4L	P #Containe	rs: 7		Scr:	Alpha: 2.32E-03 uC	i/Sa Bet	a: -1.45E-03 uCi/Sa				
7 HM936-1-AF	3974.30g,in	ITA4805					·	2 8					
J5J210189-4-SAMP	3,	11/10/05	$\langle        $	35,7		L4	1751	12/2/05	7K)				
<b> </b>	AmtRec: 2	 0ML,500P,2XLP,2X4LP	#Oontainers	:: 6	1/		Alpha: -2.29E-04 uC	ci/Sa Bet	a: 5.02E-04 uCi/Sa				
		AL CONTROL OF THE PROPERTY OF	V		V			7	The state of the s				
					· · · · · · · · · · · · · · · · · · ·				MO 0-+- 7				
STL Richland Key: In - Initial Amt, f Richland Wa. pd - Prep Dt, r - R		luted Amt, s1 - Sep1 ichment Cell, ct-Cock	-	Page 1 d	IS	V - Insufficient Volume	e tor Analysis		WO Cnt: <b>7</b> _SamplePrep v4.8.14				
nicilianu wa. pu-riep Dt, r-n	CICIOLOG DI, CO LIII	ornitoric Con, Gr Cook		·-									

#### 11/21/2005 8:30:25 AM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Labortories . BN I-129 Prp/SepRC5025 Pipet #: Pacific Northwest National Lab TB Gamma by LEPD **5I CLIENT: HANFORD** Sep1 DT/Tm Tech: Report Due: 12/08/2005 Batch: 5299629 PM, Quote: SS, 57671 WATER pCi/L Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: ,GiroirB Work Order, Lot. Total Initial Aliquot QC Tracer Dish (Ppt/or Count Detector Count On I Off CR Analyst. Comments: Geometry Sample DateTime Amt/Unit Amt/Unit Size Prep Date Time Min ld (24hr) Circle Init/Date 8 HM936-1-AG-X ITA4806 3836.60g,in 12/2/0500 00 1752 11/10/05 J5J210189-4-DUP 10/20/2005 12:31 AmtRec: 20ML,500P,2XLP,2X4LP #Containers: 6 Alpha: -2.29E-04 uCi/Sa Scr: Beta: 5.02E-04 uCi/Sa 9 HNE5H-1-AE 3894.00q,in ITA4807 LH 200 36.5 11/10/05 J5J220210-1-SAMP 10/21/2005 12:18 AmtRec: 20ML,2X500P,2XLP,2X4LP #Containers: 7 Alpha: 7.41E-07 uCi/Sa Beta: 2.49E-06 uCi/Sa 10HNH1P-1-AE 3897.80g,in ITA4808 15 2002 35 8 11/10/05 J5J250137-1-SAMP 10/24/2005 10:27 AmtRec: 20ML,2X500P,2XLP,2X4LP #Cohtainers: 7 Alpha: 1.44E-06 uCi/Sa Beta: 2.62E-06 uCi/Sa 11 HNH1V-1-AE 3919.50q,in ITA4809 35.7 10 11/10/05 J5J250137-2-SAMP 10/24/2005 08:00 AmtRec: 20ML.2X500P.2XLP.2X4LP #Containers: 7 Scr: Alpha: 2.08E-06 uCi/Sa Beta: -1.05E-06 uCi/Sa 12HNH1W-1-AE 3940.00q,in ITA4810 35,4 2146 11/10/05 J5J250137-3-SAMP 10/24/2005 12:04 AmtRec: 20ML,2X500P,2XLP,2X4LP #Containers: 7 Scr: Alpha: 1.92E-07 uCi/Sa Beta: 3.93E-07 uCi/Sa 13HNNE7-1-AA-B 3870.10g,in ITA4811 2333 35.8 11/10/05 J5J260000-629-BLK 10/20/2005 12:31 AmtRec: #Containers: 1 Scr: Alpha: Beta: 14HNNE7-1-AC-C 3846.20a.in ISD0583 2330 40.2 L3 09/24/05.pd J5J260000-629-LCS 10/20/2005 12:31 AmtRec: #Containers: 1 Scr: Alpha: Beta:

STL Richland Richland Wa. Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 14

Prep\_SamplePrep v4.8.14

1/21/2005 8:30:27 AM			San	nple Pre	paration//	Balance Id:1120482733							
			BN I-129 Prp/Se TB Gamma by l	LEPD				Pipet #:					
eport Due: 12/08/2005			51 CLIENT: HA	NFORD				Sep1 DT/Tm	Tech:				
atch: 5299629 EQ Batch, Test: None		pCi/L						Sep2 DT/Tm	Tech:				
								Prep	Tech: ,GiroirB				
Work Order, Lot, Sample DateTime Amt/U		Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometr	Count	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:			
Comments:													
It peutral													
a prefly													
1 Clients for Batch:		······································	-,7107						- India				
384868, Pacific Northwe	st Nationa	l Labortorie	s Pacific	Northwest	National L	ab, SS , 576	71						
I-129 RDL:1.00E+00	ist: pCi/L	LCL:	UCL:	RPD:									
NE71AA-BLK:													
I-129 RDL:1.00E+00 INE71AC-LCS:	pCi/L	LCL:	UCL:	RPD:									
I-129 RDL:5	pCi/L	LCL:70	UCL:130	RPD:20									
<pre>I6AF1AE-SAMP Calc Info:     Uncert Level (#s).: 2 INE71AA-BLK:</pre>	Decay	to SaDt: Y	Blk Subt.:	N Sci	.Not.: Y	ODRs: B							
Uncert Level (#s).: 2 INE71AC-LCS:	Decay	to SaDt: Y	Blk Subt.:	N Sci	.Not.: Y	ODRs: B							
Uncert Level (#s).: 2	Decay	to SaDt: Y	Blk Subt.:	N Sci	.Not.: Y	ODRs: B							
					Appr	oved By			Date:				

12/6/2005 8:39:03 AM

# ICOC Fraction Transfer/Status Report ByDate: 12/6/2004, 12/11/2005, Batch: '5299629', User: \*ALL Order By DateTimeAccepting

Batch Work O	rd CurStat	us	Accepting		Comments
5299629		······································			
4 <i>C</i>	CalcC	GiroirB	11/19/2005 10:	17:08	
SC		wagarr	IsBatched	10/26/2005 4:15:29 PM	ICOC_RADCALC v4.8.15
SC		GìroirB	InPrep	11/19/2005 10:17:08 AM	RICH-RC-5016 REVISION 5
SC		GiroirB	Prep1C	11/21/2005 8:47:06 AM	RICH-RC-5016 REVISION 5
SC .		NortonJ	InSep1	11/21/2005 10:30:42 AM	RICHRC5025 REVISION3
SC .		NortonJ	Sep1C	12/2/2005 10:31:23 AM	RICHRC5025 REV3
SC		StringerR	InCnt1	12/2/2005 10:43:59 AM	RICH-RD-0007 REVISION 5
SC		StringerR	CalcC	12/3/2005 11:02:35 AM	RICH-RD-0007 REVISION 5
1C		GiroirB	11/21/2005 8:47	7:06	
4 <i>C</i>		NortonJ	11/21/2005 10:3	30:42	
4 <i>C</i>		NortonJ	12/2/2005 10:3	1:23	
4 <i>C</i>		StringerR	12/2/2005 10:43	3:59	
4 <i>C</i>		StringerR	12/3/2005 11:02	2:35	

Page 1

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

11/21/2005 2:04:50 I	PM			Sample Pre	paration/An	ialysis 👝		Balance Id:1120482733				
384868, Pacific North Pacific Northwest Nation		bortories ,	TA Gamm	a PrpRC5017 a by HPGE	The second secon	alysis (		Pipe				
Report Due: 12/08/2	2005 W//W	799	51 CLIEN	T: HANFORD	VOT W	•		Sep1 DT/Tm Te	ch:			
Batch: 5299583 SEQ Batch, Test: None	WATER	pCi/L		PM, (	Quote: HC , 57	7671	***************************************	Sep2 DT/Tm Te	ch:			
								Prep Te	ch: GiroirB	Lico the		
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tr Prep I	racer Dish	Ppt or Geometry	Count Time Min	كالتباكر التباري المراجع	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:		
1 HNE6F-1-AE		2537.10g,in			(00	(C)	,		11/2/05			
J5J220219-1-SAMP						10 0	<i>54</i>	01/3	7/%6			
10/21/2005 10:55		AmtRec: 20	ML,5XLP	#Containers: 6	g na basing manada		Sc	r: Alpha: 4.20E-07 uC	Di/Sa I	Beta: 8.38E-07 uCi/Sa		
2 HNE6F-1-AF-X		2537.00g,in			Ten Abraham Billion	marginal depth	/ /	_	11/200			
J5J220219-1-DUP			~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~		Personal Property of the Personal Property of		<u>(25 (5</u>	0855	1/28/05	- b - r - c - c - c - c - c - c - c - c - c		
10/21/2005 10:55	10000000000000000000000000000000000000	AmtRec: 20	ML,5XLP	#Containers: 6	Acquisso prostdenional	en des voluments propriesson	II/MOS Sc	r: Alpha: 4.20E-07 uC	Di/Sa I	Beta: 8.38E-07 uCi/Sa		
3 HNH16-1-AE		2508.60g,in			PETERSTON	2004	1 ,		11/200	_		
J5J250143-1-SAMP					Park Espain		66	<u>0713</u>	11/28/05/	3		
10/24/2005 11:17		AmtRec: 20	ML,8XLP	#Containers: 9	Washing West Tarkens	And the state of t	Sc	r: Alpha: -1.15E-07 u	Ci/Sa I	Beta: 1.83E-06 uCi/Sa		
4 HNNAA-1-AA-B		2522.60g,in			e poderni eles el fr	ana kirja vi di Tilari	1 0		and Audion (Audio)			
J5J260000-583-BLK	11 8 0 999 1819		**		Company Principle		67	6)19				
10/21/2005 10:55	Managara Managa Managa Managa Managara Managara Managa Managa Managa Managa Managa Ma Managa	AmtRec:	#(	Containers: 1	y to Anti-homoure to 1975	Angeles (the department)	Sc	r: Alpha:		Beta:		
<b>5 HNNAA-1-AC-C</b> J5J260000-583-LCS		2655.50g,in	QCAG11- 08/22/05,			V	68	6714	VA cooppy process of the second			
10/21/2005 10:55		AmtRec:	#(	Containers: 1		W & & & & & & & & & & & & & & & & & & &	Sc	r: Alpha:	i i i i i i i i i i i i i i i i i i i	Beta:		
HMXG0 HM1T7 HNM47	G-SAMP "Comme -SAMP "Commen -BLK Comments	nts: gamma; ct dup c nts: gamma; ct dup ts: Beta; aliq reduce	on dif det. B	g"	Bg"							
All Clients for Bat 384868, Pacific		ional Labortorio	es Pac	ific Northwest	National Lab,	, нс , 5767	1					
•		i - Final Amt, di - Dil eference Dt. ec-Enri			Page 1	ISV -	Insufficient Volun	ne for Analysis	Pr	WO Cnt: 5 ep_SamplePrep v4.8.14		

11/21/2005 2:04:51 PM  Report Due: 12/08/2005				Sample Preparation/Analysis						Balance Id:1120482733			
				AW Gamma PrpRC5017 TA Gamma by HPGE 5I CLIENT: HANFORD						Pipet #:			
									;				
Batch: 5299583 SEQ Batch, Test: None			Ci/L			<del>/////////////////////////////////////</del>		Sep2 DT/Tm T	ech:				
			Prep Tech: ,G										
Work Order, Lo			Initial Aliquot	QC Tracer	Dish	Ppt or	Count	Detecto	سسست المتالية الأدااد	unt On   Off	CR Analys	t, Commer	
Sample DateTim	e Amt/Ur	it	Amt/Unit	Prep Date	Size	Geometry	Time Min	ld	(2	4hr) Circle	Init/Date		
										1,000			
NE6F1AE-SAMP C						- 40.							
	DL:2.50E+01	pCi/L pCi/L	LCL: LCL:70	UCL: UCL:130	RPD: RPD:20	Cs-134 Cs-137DA	RDL:1.50		pCi/L pCi/L	LCL: LCL:70	UCL: UCL:130	RPD: RPD:20	
	DL:5.00E+01	pCi/L	LCL:	UCL:	RPD:	Eu-154	RDL:5.00		pCi/L	LCL:	UCL:	RPD:	
	DL:5.00E+01	pCi/L	LCL:	UCL:	RPD:	K-40	RDL:0.00		pCi/L	LCL:	UCL:	RPD:	
	DL:5.00E+01	pCi/L	LCL:	UCL:	RPD:				_				
NNAA1AA-BLK:													
Co-60 F	DL:2.50E+01	pCi/L	LCL:	UCL:	RPD:	Cs-134	RDL:1.50	0E+01	pCi/L	LCL:	UCL:	RPD:	
Cs-137 F	DL:1.50E+01	pCi/L	LCL:	UCL:	RPD:	Cs-137DA	RDL:1.50		pCi/L	LCL:	UCL:	RPD:	
	DL:5.00E+01	pCi/L	LCL:	UCL:	RPD:	Eu-154	RDL:5.0		pCi/L	LCL:	UCL:	RPD:	
	DL:5.00E+01	pCi/L	LCL:	UCL:	RPD:	K-40	RDL:0.00	0E+00	pCi/L	LCL:	UCL:	RPD:	
	DL:5.00E+01	pCi/L	LCL:	UCL:	RPD:								
NNAA1AC-LCS:	DT - 1 E	mai /T	T CT - 70	TTCT . 120	י בי מממ	Ca 1270*	DDT - 1 F		nai /ī	LCL:70	TICT - 120	RPD:20	
	DL:15	pCi/L pCi/L	LCL:70 LCL:70	UCL:130 UCL:130	RPD:20 RPD:20	Cs-137DA Ra-226	RDL:15		pCi/L pCi/L	LCL:70	UCL:130 UCL:130	RPD:20	
	DL:	pCi/L	LCL:70	UCL:130	RPD:20	RA-228DA	RDL:		pCi/L	LCL:70	UCL:130	RPD:20	
	DL:	pCi/L	LCL:70	UCL:130	RPD:20	id. LLODA			2-2-1-	202.,0	002.150		
NE6F1AE-SAMP (		•											
-	rel (#s).: 2	Decay 1	to SaDt: Y	Blk Subt.:	N Sci-N	Tot.: Y OI	Rs: B						
NNAA1AA-BLK:	(12/11 4	_ 2007				<b>V</b> -	<del>-</del>						
	re1 (#s).: 2	Decay	to SaDt: Y	Blk Subt.:	N Sci.N	Tot.: Y OI	Rs: B						

Sci.Not.: Y

Page 2

Approved By \_\_\_\_\_

ODRs: B

Date: \_\_\_\_

HNNAA1AC-LCS:

Uncert Level (#s).: 2 Decay to SaDt: Y

Blk Subt.: N

11/29/2005 1:42:31 PM

### ICOC Fraction Transfer/Status Report ByDate: 11/29/2004, 12/4/2005, Batch: '5299583', User: \*ALL Order By DateTimeAccepting

Q Batch Wo	rk Ord CurStat	tus	Accepting		Comments
5299583	Wilder Committee				
AC	CalcC	GiroirB	11/19/2005 10:	17:03	
SC		wagarr	IsBatched	10/26/2005 4:15:29 PM	ICOC_RADCALC v4.8.15
SC		GiroirB	InPrep	11/19/2005 10:17:03 AM	RICH-RC-5017 REVISION 4
SC		GiroirB	Prep1C	11/21/2005 2:09:57 PM	RICH-RC-5017 REVISION 4
SC		ScottM	Prep2C	11/26/2005 11:24:05 AM	RICH-RC-5017 REVISION 4
SC		StringerR	InCnt1	11/26/2005 12:00:05 PM	RICH-RD-0007 REVISION 5
SC		BlackCL	CalcC	11/28/2005 9:15:46 AM	RICH-RD-0007 REVISION 5
4C		GiroirB	11/21/2005 2:0	9:57	
4 <i>C</i>		ScottM	11/26/2005 11:	24:05	
4 <i>C</i>		StringerR	11/26/2005 12:	00:05	
4 <i>C</i>		BlackCL	11/28/2005 9:1	5:46	

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

Grp Rec Cnt: 5 ICOCFractions v4.8.15

12/1/2005 6:30:36 AM Sample Preparation/Analysis Balance Id:1120482733 384868. Pacific Northwest National Labortories, Pipet #: 22 AZ Gross Alpha PrpRC5014 Pacific Northwest National Lab S7 Gross Alpha by GPC using Am-241 curve Sep1 DT/Tm Tech: **5I CLIENT: HANFORD** Report Due: 12/08/2005 Batch: 5299573 WATER PM. Quote: SS . 57671 pCi/L Sep2 DT/Tm Tech: All Tests: 5299557 DHSS, 5299559 FPS5, 5299563 ARS6, 5299573 AZS7, 5299576 BCS8, 5299629 BNTB. SEQ Batch, Test: None Prep Tech: GiroirB Work Order, Lot. Total Initial Aliquot QC Tracer Dish Ppt or Count Detector Count On | Off CR Analyst. Comments: Init/Date Amt/Unit Size Time Min (24hr) Circle Sample DateTime Amt/Unit Prep Date Geometry ld 12 405 12 1 HM6AF-1-AC 81.10g,in 1415 Va 1.5470 800 J5J200181-1-SAMP 10/19/2005 10:17 AmtRec: 20ML,2X500,2XLP,2X4LP #Containers: 7 Scr: Alpha: -2.25E-03 uCi/Sa Beta: 1.05E-03 uCi/Sa 2 HM6AQ-1-AC 201.20a.in 106 J5J200181-2-SAMP 0.3 Beta: -1.45E-03 uCi/Sa 10/19/2005 08:15 AmtRec: 20ML.2X500.2XLP.2X4LP #Containers: 7 Scr: Alpha: -9169E-04 uCi/Sa 3 HM6AX-1-AC 103.40g,in 10c J5J200181-3-SAMP 34.6 10/19/2005 11:55 AmtRec: 20ML.2X500.2XLP.2X4LP #Containers: 7 Scr: Alpha: -2.49E-03 uCi/Sa Beta: 3.94E-04 uCi/Sa 4 HM6CN-1-AC 179.50a,in 44.6 J5J200184-1-SAMP Beta: 1.32E-03 uCi/Sa 10/19/2005 12:56 AmtRec: 20ML.2X500P.2XLP.2X4LP #Containers: 7 Scr: Alpha: -2.61E-03 uCi/Sa 5 HM6CR-1-AC 157.80g,in De 51.8 J5J200184-2-SAMP Alpha: 1.03E-03 uCi/Sa Beta: -1.32E-03 uCi/Sa 10/19/2005 11:49 AmtRec: 20ML,2X500P,2XLP,2X4LP #Containers: 7 Scr: 141.60q,in 6 HM6CV-1-AC 10 A J5J200184-3-SAMP 47.5 Scr: Alpha: 2/32E-03 uCi/Sa Beta: -1.45E-03 uCi/Sa AmtRec: 20ML,2X500P,2XLP,2X4LP #Containers: 7 10/19/2005 10:49 7 HM936-1-AD 197.00q,in 150 J5J210189-4-SAMP 10/20/2005 12:31 AmtRec: 20ML,500P,2XLP,2X4LP #Containers: 6 Scr: Alpha: -2.29E-04 uCi/Sa Beta: 5.02E-04 uCi/Sa WO Cnt: 7 Key: In - Initial Amt. fi - Final Amt. di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 ISV - Insufficient Volume for Analysis STL Richland Prep\_SamplePrep v4.8.14 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Richland Wa.

### 12/1/2005 6:30:39 AM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Labortories . AZ Gross Alpha PrpRC5014 Pipet #: 2 Pacific Northwest National Lab S7 Gross Alpha by GPC using Am-241 curve 5I CLIENT: HANFORD Sep1 DT/Tm Tech: Report Due: 12/08/2005 Batch: 5299573 WATER pCi/L PM, Quote: HC, 57671 Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: GiroirB Work Order, Lot. Initial Aliquot QC Tracer Total Dish Ppt or Count Count On | Off Detector CR Analyst, Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Size Geometry Time Min ld (24hr) Circle Init/Date 8 HNE5H-1-AC 141.60g,in 1,5 200 1930 10C 10/5/55 J5J220210-1-SAMP AmtRec: 20ML.2X500P.2XLP.2X4LP #Containers: 7 Scr: Alpha: 7.41E-07 uCi/Sa Beta: 2.49E-06 uCi/Sa 9 HNE6F-1-AC 168.80q,in J5J220219-1-SAMP 432 100 10/21/2005 10:55 AmtRec: 20ML,5XLP #Containers: 6 Scr: Alpha: 4.20E-07 uCi/Sa Beta: 8.38E-07 uCi/Sa 10HNH1P-1-AC 152.50q.in 188 41.8 J5J250137-1-SAMP AmtRec: 20ML.2X500P.2XLP.2X4LP #Containers: 7 Scr: 10/24/2005 10:27 Alpha: 1.44E-06 uCi/Sa Beta: 2.62E-06 uCi/Sa 11 HNH1V-1-AC 199.30q,in 6,1 111 J5J250137-2-SAMP 10/24/2005 08:00 Scr: AmtRec: 20ML,2X500P,2XLP,2X4LP #Containers: 7 Alpha: 2.08E-06 uCi/Sa Beta: -1.05E-06 uCi/Sa 12HNH1W-1-AC 170.00q,in 110 J5J250137-3-SAMP 33,7 10/24/2005 12:04 AmtRec: 20ML,2X500P,2XLP,2X4LP #Containers: 7 Scr: Beta: 3.93E-07 uCi/Sa Alpha: 1.92E-07 uCi/Sa 13HNH16-1-AC 198.10g,in 110 J5J250143-1-SAMP 324 10/24/2005 11:17 AmtRec: 20ML,8XLP #Containers: 9 Scr: Alpha: -1.15E-07 uCi/Sa Beta: 1.83E-06 uCi/Sa 14HNH16-1-AG-X 204.30g,in J5J250143-1-DUP 34.8 10/24/2005 11:17 AmtRec: 20ML.8XLP #Containers: 9 Scr: Alpha: -1.15E-07 uCi/Sa Beta: 1.83E-06 uCi/Sa

STL Richland Richland Wa. Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 14

Prep SamplePrep v4.8.14

### Sample Preparation/Analysis 12/1/2005 6:30:40 AM Balance Id:1120482733 384868, Pacific Northwest National Labortories, AZ Gross Alpha PrpRC5014 Pacific Northwest National Lab S7 Gross Alpha by GPC using Am-241 curve Sep1 DT/Tm Tech: **5I CLIENT: HANFORD** Report Due: 12/08/2005 PM, Quote: HC, 57671 Batch: 5299573 WATER pCi/L Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: .GiroirB Initial Aliquot **QC** Tracer Dish Ppt or Count Detector Count On I Off CR Analyst. Work Order, Lot. Total Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Size Geometry Time Min ld (24hr) Circle Init/Date 15HNH18-1-AD 195.30a.in J5J250145-1-SAMP 122 10/24/2005 08:00 AmtRec: 20ML.500P.2XLP #Containers: 4 Scr: Algha: 2.21E-07 uCi/Sa Beta: 2.68E-07 uCi/Sa 16HNH2C-1-AD 143.60a.in 123 J5J250145-2-SAMP 41.6 Alpha: 6.43E-07 uCi/Sa Beta: 7.44E-07 uCi/Sa 10/24/2005 13:51 AmtRec: 20ML,500P,2XLP #Containers: 4 Scr: 17HNM9P-1-AA-B 201.80q,in J5J260000-573-BLK 0.1 #Containers: 1 Scr: Alpha: Beta: 10/24/2005 11:17 AmtRec: 203.00q,in ASD3714 18HNM9P-1-AC-C 11/08/05.pd 0.4 J5J260000-573-LCS Scr: 10/24/2005 11:17 AmtRec: #Containers: 1 Alpha: Beta: "Comments: Alpha and Beta alig reduced as determined by wt scn due to dis-solid content. Bg" HM6AF-SAMP Comments: "Comments: Alpha and Beta alig reduced as determined by wt scn due to dis-solid content. Bg" HM6AX-SAMP HM6CN-SAMP "Comments: Alpha aliq reduced as determined by wt scn due to dis-solid content. Ba" HM6CR-SAMP "Comments: Alpha alig reduced as determined by wt scn due to dis-solid content. Bg" HM6CV-SAMP "Comments: Alpha aliq reduced as determined by wt scn due to dis-solid content. Ba" HNE5H-SAMP "Comments: Alpha and Beta aliq reduced as determined by wt scn due to dis-solid content. Bg" "Comments: gamma; ct dup on dif det. Bg: Alpha alig reduced as determined by wt scn due to dis-solid content. Bg" HNE6F-SAMP HNH1P-SAMP Comments HNH1W-SAMP "Comments: Alpha alig reduced as determined by wt scn due to dis-solid content. Bg" Clients fcHNH2C-SAMP "Comments: Alpha and Beta alig reduced as determined by wt scn due to dis-solid content. Bg" 384868, Pa WO Cnt: 18 STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 3 ISV - Insufficient Volume for Analysis Prep SamplePrep v4.8.14 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Richland Wa.

12/7/2005 9:24:49 AM

## ICOC Fraction Transfer/Status Report ByDate: 12/7/2004, 12/12/2005, Batch: '5299573', User: \*ALL Order By DateTimeAccepting

Q Batch Work Ord	I CurStat	us	Accepting		Comments
5299573	yezanev maasoomaya'aan fa 1914 ilika	a terrocolous vindenn relation as Forbitalist (Constantination)			
AC	CalcC	GiroirB	11/22/2005 7:3	0:11	
SC		wagarr	IsBatched	10/26/2005 4:15:29 PM	ICOC_RADCALC v4.8.15
SC		GiroirB	InPrep	11/22/2005 7:30:11 AM	RICH-RC-5014 REVISION 6
SC		GiroirB	Prep1C	12/1/2005 6:36:23 AM	RICH-RC-5014 REVISION 6
SC		ScottM	InPrep2	12/2/2005 7:27:52 AM	RICH-RC-5014 REVISION 6
SC		StringerR	InCnt1	12/3/2005 2:13:31 PM	RICH-RD-0003 REVISION 4
SC		BlackCL	CalcC	12/5/2005 1:26:43 PM	RICH-RD-0003 REVISION 4
AC		GiroirB	12/1/2005 6:36:	:23	
4 <i>C</i>		ScottM	12/2/2005 7:27:	:52	
AC		StringerR	12/3/2005 2:13:	:31 PM	
AC		BlackCL	12/5/2005 1:26:	:43 PM	

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

12/1/2005 6:30:41	AM		Samı	ple Prepa	ration/Ana	alysis			nce ld:1120	- The	
384868, Pacific Nor Pacific Northwest Na			C Gross Beta P	•	0	-		F	Pipet #22	9	
Report Due: 12/08	1/1/	211 11 11 11 11 11	8 Gross Beta b 5 CLIENT: HAN		51/ Y -90 CURV	e		Sep1 DT/Tm	Tech:		
Batch: 5299576 SEQ Batch, Test: Non	WATER	pCi/L		PM, Qu	ote: SS , 570	671	***************************************	Sep2 DT/Tm	Tech:	1	
Dag Baton, 100t. 140h	•							Prep	Tech: Gird	oirB \	JOSE
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On   Off (24hr) Circle		nalyst,   Date	Comments:
1 HM6AF-1-AD		89.40g,in					28a	131	8	12/4	IOSR
J5J200181-1-SAMP				Harrier A.	5275	200	204		•		· Antenidos
10/19/2005 10:17	ACCOUNTS OF THE PROPERTY OF TH	AmtRec: 20ML	,2X500,2XLP,2X4LP	#Containers: 7	Gilleman Annual Community (Community Community	1	S	Sor: Alpha: -2.25E	03 uCi/Sa	Beta: 1	.05E-03 uCi/Sa
2 HM6AQ-1-AD		199.40g,in					28b				
J5J200181-2-SAMP			*******		6.1		٧٠٠٠				
10/19/2005 08:15	10000000 10000000000000000000000000000	AmtRec: 20ML	,2X500,2XLP,2X4LP	#Containers: 7	THE PROPERTY OF THE PROPERTY O	er en	S	Sor: Alpha: -9.69E-	04 uCi/Sa	Beta: -1	1.45E-03 uCi/Sa
з HM6AX-1-AD		167.20g,in			. )		280	9	Section Sectio		
J5J200181-3-SAMP			***************************************		87,5	<u> </u>					
10/19/2005 11:55		AmtRec: 20ML	,2X500,2XLP,2X4LP	#Containers: 7			S	Sor: Alpha: -2,49E-	03 uCi/Sa	Beta: 3	94E-04 uCi/Sa
4 HM6CN-1-AD		197.50g,in	Market and the second s			Aurimotes dire	28	d			
J5J200184-1-SAMP					73.8	·		***************************************			
10/19/2005 12:56		AmtRec: 20ML	,2X500P,2XLP,2X4LF	P #Containers: 7	Wilder and the state of the sta		S	Sor: Alpha: -2.61E-	03 uCi/Sa	Beta: 1	32E-03 uCi/Sa
5 HM6CR-1-AD		194.40g,in					3	9	PA Vin Departments		Action of the second of the se
J5J200184-2-SAMP 					823	>	***************************************	~~~~			
10/19/2005 11:49		AmtRec: 20ML	,2X500P,2XLP,2X4LF	P #Containers: 7			S	Scr: Alpha: 1.03E-	03 uCi/Sa	Beta: -1	.32E-03 uCi/Sa
6 HM6CV-1-AD		192.30g,in					2	51 b	e positione de la constante de		A CONTRACT OF THE CONTRACT OF
J5J200184-3-SAMP					80.	<u> </u>	********				
10/19/2005 10:49		AmtRec: 20ML	,2X500P,2XLP,2X4LF	P #Containers: 7			S	Sor: Alpha: 2.32E-	03 uCi/Sa	Beta: -1	.45E-03 uCi/Sa
7 HM936-1-AE		199.90g,in						316	No. Company		
J5J210189-4-SAMP	[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]		*********		1,78.	0 //	***************************************	-	<u> </u>	استرو	
10/20/2005 12:31		AmtRec: 20ML	,500P,2XLP,2X4LP	#Containers: 6	<i>y</i>		S	Scr: Alpha: -2.29E-	-04 uCi/Sa	Beta: 5	5.02E-04 uCi/Sa
STL Richland K	ey: In - Initial Amt,	fi - Final Amt, di - Dilute	ed Amt, s1 - Sep1,	s2 - Sep2	Page 1	ISV ·	- Insufficient Volu	ume for Analysis	***************************************	W	O Cnt: 7
Richland Wa.	•	Reference Dt, ec-Enrichr			-			,		Prep_S	amplePrep v4.8.1

### 12/1/2005 6:30:42 AM Sample Preparation/Analysis Balance Id:1120482733 Pipet #: 229 384868, Pacific Northwest National Labortories, BC Gross Beta PrpRC5014 Pacific Northwest National Lab S8 Gross Beta by GPC using Sr/Y-90 curve **5I CLIENT: HANFORD** Sep1 DT/Tm Tech: Report Due: 12/08/2005 Batch: 5299576 PM, Quote: HC, 57671 WATER pCi/L Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: GiroirB Work Order, Lot, Initial Aliquot QC Tracer Dish Count On | Off Total Ppt or Count Detector CR Analyst. Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Size Time Min Init/Date Geometry ld (24hr) Circle 8 HNE5H-1-AD 181.00g,in 311 1218 J5J220210-1-SAMP 670 200 10/21/2005 12:18 AmtRec: 20ML.2X500P.2XLP.2X4LP #Containers: 7 Scr: Beta: 2.49E-06 uCi/Sa Alpha: 7.41E-07 uCi/Sa 9 HNE57-1-AC 197.30a.in 329 J5J220217-2-SAMP 10/21/2005 10:00 AmtRec: 20ML.4XLP #Containers: 5 Scr: Alpha: 5.31E-b7 uCi/Sa Beta: 2.38El07 uCi/Sa 10HNE6F-1-AD 193.40q,in 326 25,5 J5J220219-1-SAMP 10/21/2005 10:55 AmtRec: 20ML.5XLP #Containers: 6 Scr: Alpha: 4.20E-07 uCi/Sa Beta: 8.38E 07 uCi/Sa 11 HNH1P-1-AD 203.70a.in 320 73.6 J5J250137-1-SAMP 10/24/2005 10:27 AmtRec: 20ML,2X500P,2XLP,2X4LP #Containers: 7 Alpha: 1.44E-06 uCi/Sa Beta: 2.62E-06 uCi/Sa Scr: 12HNH1V-1-AD 201.40q,in 320 J5J250137-2-SAMP 0.3 10/24/2005 08:00 AmtRec: 20ML.2X500P.2XLP.2X4LP #Containers: 7 Scr: Alpha: 2.08E-06 uCi/Sa Beta: -1.05E-06 uCi/Sa 13HNH1W-1-AD 196.90g,in 2612 75,4 J5J250137-3-SAMP 10/24/2005 12:04 AmtRec: 20ML.2X500P.2XLP.2X4LP #Containers: 7 Scr: Alpha: 1/92E-07 uCi/Sa Beta: 3.93E-07 uCi/Sa 14HNH16-1-AD 198.60a.in NA J5J250143-1-SAMP 50.2 10/24/2005 11:17 AmtRec: 20ML.8XLP #Containers: 9 Scr: Alpha: -1.15E-07 uCi/Sa Beta: 1.83E-06 uCi/Sa Page 2

STL Richland Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added ISV - Insufficient Volume for Analysis

WO Cnt: 14

Prep SamplePrep v4.8.14

### 12/1/2005 6:30:43 AM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Labortories . BC Gross Beta PrpRC5014 Pacific Northwest National Lab S8 Gross Beta by GPC using Sr/Y-90 curve **5I CLIENT: HANFORD** Sep1 DT/Tm Tech: Report Due: 12/08/2005 PM, Quote: HC, 57671 Batch: 5299576 WATER pCi/L Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: ,GiroirB Work Order, Lot. Initial Aliquot Total QC Tracer Dish Ppt or Count Detector Count On | Off CR Analyst. Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Size Geometry Time Min ld (24hr) Circle Init/Date 15HNH18-1-AE 199.20g,in 0/5/05 200 J5J250145-1-SAMP 200 10/24/2005 08:00 AmtRec: 20ML 500P.2XLP #Containers: 4 Scr: Alpha: 2.21E-07 uCi/Sa Beta: 2.68E-07 uCi/Sa 16HNH2C-1-AE 189.20a.in 240 79.0 J5J250145-2-SAMP 10/24/2005 13:51 AmtRec: 20ML.500P.2XLP Scr: Alpha: 6.43E-07 uCi/Sa #Containers: 4 Beta: 7.44E-07 uCi/Sa 17HNH2C-1-AF-X 186.80g,in MA 79,0 J5J250145-2-DUP 10/24/2005 13:51 AmtRec: 20ML.500P.2XLP Scr: Alpha: 6.43E-07 uCi/Sa Beta: 7.44E-07 uCi/Sa #Containers: 4 18HNM9V-1-AA-B 199.00q,in MB J5J260000-576-BLK 0.2 10/24/2005 13:51 AmtRec: #Containers: 1 Scr: Alpha: Beta: BESB2614 19HNM9V-1-AC-C 194.40q,in かい 11/10/05.pd J5J260000-576-LCS 0:4 10/24/2005 13:51 AmtRec: #Containers: 1 Scr: Alpha: Beta: Comments: HM6AF-SAMP "Comments: Alpha and Beta alig reduced as determined by wt scn due to dis-solid content, Bg" HM6AX-SAMP "Comments: Alpha and Beta alig reduced as determined by wt scn due to dis-solid content. Bg" HM6CN-SAMP "Comments: Alpha aliq reduced as determined by wt scn due to dis-solid content. Bg" "Comments: Alpha aliq reduced as determined by wt scn due to dis-solid content. Bg" Clients for Batch: 384868, Pacific Northwest National Labortories Pacific Northwest National Lab, SS, 57671

Page 3

STL Richland Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 19

Prep\_SamplePrep v4.8.14

12/1/2005 6:30:44 AM

### Sample Preparation/Analysis

BC Gross Beta PrpRC5014 S8 Gross Beta by GPC using Sr/Y-90 curve

5I CLIENT: HANFORD

Balance Id:1120482733

Prep Tech: ,GiroirB

Pipet #: 229

Comments:

Sep1 DT/Tm Tech:

Report Due: 12/08/2005 Batch: 5299576

SEQ Batch, Test: None

pCi/L

Sep2 DT/Tm Tech:

sepz Diffilli fecil.

Work Order, Lot, Total Initial Aliquot QC Tracer Dish Ppt or Count Detector Count On | Off CR Analyst, Sample DateTime Amt/Unit Amt/Unit Prep Date Size Time Min Geometry ld (24hr) Circle Init/Date

HM6CV-SAMP "Comments: Alpha aliq reduced as determined by wt scn due to dis-solid content. Bg"

HNE5H-SAMP "Comments: Alpha and Beta aliq reduced as determined by wt scn due to dis-solid content. Bg"

HNE6F-SAMP "Comments: gamma; ct dup on dif det. Bg : Alpha aliq reduced as determined by wt scn due to dis-solid content. Bg"

HNH1P-SAMP Comments

HNH1W-SAMP "Comments: Alpha alig reduced as determined by wt scn due to dis-solid content. Bg"

HNH2C-SAMP "Comments: Alpha and Beta alig reduced as determined by wt scn due to dis-solid content. Bg"

pCi/L LCL: pCi/L LCL: pCi/L LCL:70	UCL:	RPD: RPD: RPD:20	
pCi/L LCL:70			
pCi/L LCL:70			
<del>-</del> ·	UCL:130	RPD:20	
<del>-</del> ·	UCL:130	RPD:20	
nfo:			
s): 2 Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y ODRs: B	
s).: 2 Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y ODRs: B	
s): 2 Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y ODRs: B	
	<del>-</del>	•	• • • • • • • • • • • • • • • • • • • •

Page 4

12/7/2005 9:25:21 AM

### ICOC Fraction Transfer/Status Report ByDate: 12/7/2004, 12/12/2005, Batch: '5299576', User: \*ALL Order By DateTimeAccepting

Q Batch Work	Ord CurStat	us	Accepting		Comments
5299576		<del></del>			
AC	CalcC	GiroirB	11/22/2005 7:3	0:14	
SC		wagarr	IsBatched	10/26/2005 4:15:29 PM	ICOC_RADCALC v4.8.15
SC .		GiroirB	InPrep	11/22/2005 7:30:14 AM	RICH-RC-5014 REVISION 6
SC .		GiroirB	Prep1C	12/1/2005 6:36:28 AM	RICH-RC-5014 REVISION 6
SC .		ScottM	InPrep2	12/2/2005 7:27:44 AM	RICH-RC-5014 REVISION 6
SC		ScottM	Prep2C	12/3/2005 2:07:09 PM	RICH-RC-5014 REVISION 6
C C		StringerR	InCnt1	12/3/2005 2:13:48 PM	RICH-RD-0003 REVISION 4
C		BlackCL	CalcC	12/5/2005 12:48:03 PM	RICH-RD-0003 REVISION 4
C		GiroirB	12/1/2005 6:36:	:28	
IC .		ScottM	12/2/2005 7:27:	:44	
AC		ScottM	12/3/2005 2:07:	:09 PM	5321294
AC		StringerR	12/3/2005 2:13	:48 PM	
4 <i>C</i>		BlackCL	12/5/2005 12:4	8:03	

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

Grp Rec Cnt:6 ICOCFractions v4.8.15

11/4/2005 7:26:02 AM	1000	Sample Pr	eparation/Analys	is		Balance Id	:1120482733 , <i>o</i> f	
384868, Pacific Northwest National Pacific Northwest National Lab		Sr-90 Prp/SepRC5000 Sr-85 by NaI and Sr-9	6(5071) 90 by GPC 7 day ingrow	<i>y</i> th		Pipet #	#:_ <i>NA</i>	Ass
Report Due: 12/08/2005	a a famous fine of the	CLIENT: HANFORD			Sep1	DT/Tm Tech	11-8-05	4:30 /24
Batch: 5299626 WATER SEQ Batch, Test: None All Tests: 52	<b>pCi/L</b> 99563 ARS6, 5299573 AZ		Quote: HC , 57671	T	Sep2	DT/Tm Tech	: 11-18-08	11:39龄
on the second	, 0					Prep Tech	ı: ,GiroirB	
Work Order, Lot, Total Sample DateTime Amt/Unit	11 ' 11	Tracer Tracer ep Date Yield	Dish Ppt or Size Geometry		Detector   Co	unt On   Off   44hr) Circle	CR Analyst, Init/Date	Comments:
1 HNH16-1-AF	1005.40g,in SRTB	/OF 1			311	0	935 11	1005
J5J250143-1-SAMP 	11/01, 0.000,000	2-0011		30		************		
	YTA14	.8610	23.7	100	GA	0840	1/19/53	
	Ex:7/10	y200 <b>6</b> 		Of the lands of th	GA-	1434	11/20/050	0
10/24/2005 11:17	AmtRec: 20ML,8	3XLP #Containers: 9			Scr: Alpha: -	1.15E-07 uCi/Sa	Beta: 1.8	33E-06 uCi/Sa
2 HNH16-1-AH-X	986.20g,in SRTB	12756 1-778 /			3/1	10	07 11	/10/05 R
J5J250143-1-DUP	11/01.	/05,pd 2.0202		- Very de la regula			,	
	YTA146	.8801			W	0840	11/19/05	
	Ex:7/10/2		24.1		63	1434	11/20/0500	)
10/24/2005 11:17	AmtRec: 20ML,8	3XLP #Containers: 9			Scr: Alpha: -	1.15E-07 uCi/Sa	Beta: 1.	33E-06 uCi/Sa
3 HNNE5-1-AA-B	1024.40g,in SRTB		A CONTRACTOR OF THE STATE OF TH		3 11		12 11	110 05 12
J5J260000-626-BLK	11/01	105,pd 2.0393		TANKA MININTER PROPERTY AND A STATE OF THE S		•		
	YTA1467	<u>[8581</u>			66	0840	11/19/5	
	Ex:7/10/2		240		6e	1434	11/20/0500	
10/24/2005 11:17	AmtRec:	#Containers: 1			Scr:	Alpha:	, ,	Beta:
4 HNNE5-1-AC-C	922.50g,in SRSG	31142 1.741		***************************************	311	110	10 1/1	olos a
J5J260000-626-LCS	09/14	<sup>/05,pd</sup> 2.∂228 -						
	\	8607			(eD	040	10/19/00	
	Ex:7/10/2		22.3	4	60	1434	11/20/0500	
10/24/2005 11:17	AmtRec:	#Containers: 1			Scr:	Alpha:	( (	Beta:
,	fi - Final Amt, di - Diluted - Reference Dt, ec-Enrichme		J	ISV - Insufficien	nt Volume for An	alysis		/O Cnt: <b>4</b> SamplePrep v4.8.14

11/4/2005 7:26:05 A	M		CL Sr-90 Pr TL Sr-85 by			Balance Id:1120482733  Pipet #:					
Report Due: 12/08/	2005		51 CLIENT:	HANFORD					Sep1 DT/Tm Tech	n:	
Batch: 5299626		pCi/L						•	Sep2 DT/Tm Tech	n:	
SEQ Batch, Test: None									Prep Tech	n: ,GiroirB	
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
Comments:  HVEIFE	el							and a first of the second of t			8
ll Clients for Bat	<b>ch</b>								- Marie Control of the Control of th	- MANAGE - M	

INH161AF-SAI	MP Constituent Li	st:									
Sr-85	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20
INNE51AA-BL	к:										
Sr-85	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90	RDL:2	pCi/L	LCL:	UCL:	RPD:
INNE51AC-LC	S:										
Sr-85	RDL:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-90	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20
INH161AF-SAI	MP Calc Info:										
Uncert	Level (#s).: 2	Decay to	SaDt: Y	Blk Subt.:	N Sci.Not.	Y ODRs	: B				
INNE51AA-BLI	K:										
Uncert	Level (#s).: 2	Decay to	SaDt: Y	Blk Subt.:	N Sci.Not.	Y ODRs	: B				
INNE51AC-LC	S:										
Uncert	Level (#s).: 2	Decay to	SaDt: Y	Blk Subt.:	N Sci.Not.:	Y ODRs	: B				

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2 STL Richland pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Richland Wa.

ISV - Insufficient Volume for Analysis

WO Cnt: 4 Prep\_SamplePrep v4.8.14 11/23/2005 6:51:34 AM

## ICOC Fraction Transfer/Status Report ByDate: 11/23/2004, 11/28/2005, Batch: '5299626', User: \*ALL Order By DateTimeAccepting

Batch Work (	Ord CurStat	us A	ccepting		Comments
299626	**************************************				
C	CalcC	GiroirB	11/3/2005 6:20	:39	
iC		wagarr	IsBatched	10/26/2005 4:15:29 PM	ICOC_RADCALC v4.8.15
SC .		GiroirB	InPrep	11/3/2005 6:20:39 AM	RICH-RC-5016 REVISION 5
C		GiroirB	Prep1C	11/4/2005 7:30:00 AM	RICH-RC-5016 REVISION 5
BC .		FABREM	InSep1	11/4/2005 8:36:12 AM	RICH-RC-5006 REVISION 6
C C		FABREM	Sep1C	11/10/2005 8:50:57 AM	RICH-RC-5006 REVISION 6
C C		StringerR	InCnt1	11/10/2005 9:00:35 AM	RICH-RD-0007 REVISION 5
C C		DAWKINSO	Cnt1C	11/10/2005 9:50:14 PM	RICH-RD-0007 REVISION 5
C C		FABREM	InSep2	11/12/2005 6:52:36 PM	RICH-RC-5071 REVISION 4
C		FABREM	Sep2C	11/18/2005 7:19:01 PM	RICH-RC-5071 REVISION 4
C C		DAWKINSO	InCnt2	11/18/2005 8:41:04 PM	RICH-RD-0003 REVISION 4
C C		DAWKINSO	CalcC	11/20/2005 5:44:55 PM	RICH-RD-0003 REVISION 4
C		GiroirB	11/4/2005 7:30	:00	
С		FABREM	11/4/2005 8:36	:12	
C		FABREM	11/10/2005 8:5	0:57	
С		StringerR	11/10/2005 9:0	0:35	
С		DAWKINSO	11/10/2005 9:5	0:14	
С		FABREM	11/12/2005 6:5	2:36	
C		FABREM	11/18/2005 7:1	9:01	
С		DAWKINSO	11/18/2005 8:4	1:04	
9		DAWKINSO	11/20/2005 5:4	4:55	
		StringerR DAWKINSO FABREM FABREM DAWKINSO	11/10/2005 9:0 11/10/2005 9:5 11/12/2005 6:5 11/18/2005 7:1 11/18/2005 8:4	0:35 0:14 2:36 9:01 1:04	

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

10/26/2005 4:14:41 PM	Sample Preparation/Analys	sis	Balance Id:	
	C-14 Prp/SepRC5022		Pipet #:	
	Carbon-14 by Liquid Scint CLIENT: HANFORD	Se	ep1 DT/Tm Tech:	
Batch: 5299630 WATER pCi/L	PM, Quote: HC , 57671		ep2 DT/Tm Tech:	
SEQ Batch, Test: None	·		Prep Tech:	
Work Order, Lot,   Total   Initial Aliquot	QC Tracer Count De	etector Count On Off	CR Analyst,	Comments:
Sample DateTime Amt/Unit Amt/Unit	11	Id (24hr) Circle	Init/Date	John Marie
1 HNE57-1-AD				
J5J220217-2-SAMP 			***************************************	
10/21/2005 10:00 AmtRec: 20ML,4X	XLP #Containers: 5	Scr:	Alpha:	Beta:
2 HNE57-1-AE-X	A CONTROL OF THE PROPERTY OF T			
J5J220217-2-DUP				
10/21/2005 10:00 AmtRec: 20ML,4X	KLP #Containers: 5	Scr:	Alpha:	Beta:
3 HNNE9-1-AA-B			Company of the Compan	
J5J260000-630-BLK				
10/21/2005 10:00 AmtRec:	#Containers: 1	Scr:	Alpha:	Beta:
4 HNNE9-1-AC-C				
J5J260000-630-LCS			Walter 1971	
10/21/2005 10:00 AmtRec:	#Containers: 1	Scr:	Alpha:	Beta:
5 HNNE9-1-AD-BN				
J5J260000-630-IBLK				
10/21/2005 10:00 AmtRec:	#Containers: 1	Scr:	Alpha:	Beta:
Comments:				
		THE STATE OF THE S	many to the second seco	
All Clients for Batch: 384868, Pacific Northwest National Labortories	Pacific Northwest National Lab, HC	, 57671		
HNE571AD-SAMP Constituent List: C-14 RDL:2.00E+02 pCi/L LCL:70 t	UCL:130 RPD:20			
STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted And Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichmen		ISV - Insufficient Volume for	Analysis	WO Cnt: <b>5</b> ICOC v4.8.15

	,	Sa	mple Pr	eparation/A	Analysis		Balance Id:	
		•	•				Pipet #:	
						Sep1	DT/Tm Tech:	
	pCi/L					Sep2	DT/Tm Tech:	n.
						100000 10000 1000	Prep Tech:	
Total Amt/Unit	Initial Aliqu Amt/Unit	- 11	C Tracer	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
pCi/L	LCL: LCL:70 LCL:	UCL: UCL:130 UCL:	RPD: RPD:20 RPD:					
: 2 Decay	to SaDt: Y	Blk Subt.	: N So	ci.Not.: Y	ODRs: B ODRs: B			s u
	Amt/Unit  +02 pCi/L  pCi/L  +02 pCi/L  : 2 Decay 2 Decay	pCi/L  Total Initial Alique Amt/Unit Amt/Unit  +02 pCi/L LCL: pCi/L LCL:70  +02 pCi/L LCL: : : 2 Decay to SaDt: Y : 2 Decay to SaDt: Y	5S C-14 Prp/S S3 Carbon-14 5I CLIENT: H  PCi/L  Total Ant/Unit Initial Aliquot Amt/Unit Pr  +02 pCi/L LCL: UCL: pCi/L LCL:70 UCL:130  +02 pCi/L LCL: UCL: 2 Decay to SaDt: Y Blk Subt. 2 Decay to SaDt: Y Blk Subt.	5S C-14 Prp/SepRC5022 S3 Carbon-14 by Liquid 5I CLIENT: HANFORD  PCi/L  Total Amt/Unit Ant/Unit QC Tracer Amt/Unit Prep Date  +02 pCi/L LCL: UCL: RPD: pCi/L LCL:70 UCL:130 RPD:20  +02 pCi/L LCL: UCL: RPD: 2 Decay to SaDt: Y Blk Subt.: N Sc. 2 Decay to SaDt: Y Blk Subt.: N Sc.	5S C-14 Prp/SepRC5022 S3 Carbon-14 by Liquid Scint 5I CLIENT: HANFORD  PCi/L  Total Amt/Unit Amt/Unit QC Tracer Count Time Min  +02 pCi/L LCL: UCL: RPD:  pCi/L LCL:70 UCL:130 RPD:20  +02 pCi/L LCL: UCL: RPD:  2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y  2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y	S3 Carbon-14 by Liquid Scint 5I CLIENT: HANFORD  PCi/L  Total Ant/Unit Initial Aliquot Amt/Unit Prep Date Time Min Id  +02 pCi/L LCL: UCL: RPD: pCi/L LCL:70 UCL:130 RPD:20  +02 pCi/L LCL: UCL: RPD: 1: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B 1: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B	SS C-14 Prp/SepRC5022 S3 Carbon-14 by Liquid Scint SI CLIENT: HANFORD  Sep1  PCi/L  Total Ant/Unit Initial Aliquot Amt/Unit Prep Date Time Min Id C24hr) Circle  +02 pCi/L LCL: UCL: RPD: pCi/L LCL:70 UCL:130 RPD:20  +02 pCi/L LCL: UCL: RPD: 1: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B 1: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B	SS C-14 Prp/SepRC5022   S3 Carbon-14 by Liquid Scint   Sep1 DT/Tm Tech:

Page 2

12/9/2005 9:42:46 AM

### ICOC Fraction Transfer/Status Report ByDate: 12/9/2004, 12/14/2005, Batch: '5299630', User: \*ALL Order By DateTimeAccepting

Q Batch Wo	rk Ord CurStatu	s A	ccepting		Comments
5299630		WALLO LO MICOLO TO THE NATIONAL PROPERTY OF THE PARTY OF		A CONTRACTOR OF THE STATE OF TH	
AC	CalcC	McDowellD	11/29/2005 8:2	7:26	
SC		wagarr	IsBatched	10/26/2005 4:15:29 PM	ICOC_RADCALC v4.8.15
SC		McDowellD	InSep1	11/29/2005 8:27:26 AM	RICH-RC-5022 REVISION 3
sc		McDowellD	Sep1C	12/7/2005 3:18:10 PM	RICH-RC-5022 REVISION 3
SC		StringerR	InCnt1	12/7/2005 3:24:20 PM	RICH-RD-0001 REVISION 3
SC		BlackCL	CalcC	12/8/2005 8:12:46 AM	RICH-RD-0001 REVISION 3
AC		McDowellD	12/7/2005 3:18	10 PM	
AC		StringerR	12/7/2005 3:24	20 PM	
AC		BlackCL	12/8/2005 8:12	46	

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

Grp Rec Cnt:4 ICOCFractions v4.8.15

1/30/2005 1:06:37 PM			Samp	le Prepa	ration/Ana	lysis			Balance Id	:1120482733	
84868, Pacific Northwest Nationa	l Labortories ,	FP Tc-99			0.1.1				Pipet #	<b>!</b>	
eport Due: 12/08/2005	101009	S5 Techr 51 CLIEN		9 by Liquid FORD	Scint				Sep1 DT/Tm Tech	ı <b>:</b>	
Batch: 5299559 WATER	pCi/L				ote: SS , 576	71			Sep2 DT/Tm Tech		
EQ Batch, Test: None	Pour			i iii, Qu	010. 00 , 570	,, ,			•		
				بالكناكانات				Ш	Prep Tech	ı: ,GiroirB	
Nork Order, Lot, Total Amt Sample Date /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit		Aliq Amt -Acidified)	QC Tracer Prep Date	Count Time Min	Detect Id	tor	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
HM6AF-1-AF		124.20g,in	124.20g								
J200181-1-SAMP											
<b></b>	AmtRe	ec: 20ML,2X500,2XI	LP,2X4LP	#Containers: 7				Scr:	Alpha: -2.25E-03 uCi/S	Sa Beta	: 1.05E-03 uCi/Sa
HM6AQ-1-AF		123.90g,in	123.90g	]							
J200181-2-SAMP											
0/19/2005 08:15	AmtRe	ec: 20ML,2X500,2XI	LP,2X4LP	#Containers: 7			~~~	Scr:	Alpha: -9.69E-04 uCi/s	Sa Beta	: -1.45E-03 uCi/Sa
HM6AX-1-AF		124.90g,in	124.90g						· · · · · · · · · · · · · · · · · · ·		
J200181-3-SAMP		O,									
									*		*****
0/19/2005 11:55	AmtRe	ec: 20ML,2X500,2XI		····				Scr:	Alpha: -2.49E-03 uCi/5	Sa Beta	: 3.94E-04 uCi/Sa
HM6CN-1-AF		126.60g,in	126.60g	1							
J200184-1-SAMP 									*		
### ##################################	AmtRe	ec: 20ML,2X500P,2	XLP,2X4LP	#Containers: 7				Scr:	Alpha: -2.61E-03 uCi/5	Sa Beta	: 1.32E-03 uCi/Sa
HM6CN-1-AH-X		125.10g,in	125.10g				:				
J200184-1-DUP											
MINISTER DE LE CONTROL DE LA C											
0/19/2005 12:56	AmtRe	ec: 20ML,2X500P,2						Scr:	Alpha: -2.61E-03 uCi/5	Sa Beta	: 1.32E-03 uCi/Sa
<b>HM6CR-1-AF</b> J200184-2-SAMP		125.60g,in	125.60g	1							
5200184-2-SAMP 		*******									
######################################	AmtRe	ec: 20ML,2X500P,2	XLP,2X4LP	#Containers: 7				Scr:	Alpha: 1.03E-03 uCi/S	a Beta	:-1.32E-03 uCi/Sa
HM6CR-1-AH-S		129.80g,in	129.80g	)	TCSG1358						
J200184-2-MS			•		09/30/05,pd						
- <b>-                                       </b>	AmtRe	ec: 20ML,2X500P,2	XLP,2X4LP	#Containers: 7	·			Scr:	Alpha: 1.03E-03 uCi/S	a Beta	: -1.32E-03 uCi/Sa
STL Richland Key: In - Initial Am	t, fi - Final Amt, di	- Diluted Amt, s	1 - Sep1, s	s2 - Sep2	Page 1	ISV -	Insufficient	Volume	for Analysis		VO Cnt: 7
Richland Wa. pd - Prep Dt,	r - Reference Dt, ec-l	Enrichment Cell,	, ct-Cockta	iled Added						Prep_	SamplePrep v4.8

### 11/30/2005 1:06:38 PM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Labortories, FP Tc-99 Prp/SepRC5065 Pipet #: Pacific Northwest National Lab S5 Technetium-99 by Liquid Scint **5I CLIENT: HANFORD** Sep1 DT/Tm Tech: Report Due: 12/08/2005 PM, Quote: SS, 57671 Batch: 5299559 WATER pCi/L Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: ,GiroirB Work Order, Lot, Total Amt Total Initial Aliquot Adi Alia Amt QC Tracer Count Detector Count On | Off CR Analyst, Comments: /Unit Acidified/Unit Amt/Unit (Un-Acidified) Prep Date Sample Date Time Min ld (24hr) Circle Init/Date 8 HM6CV-1-AF 132.10g,in 132.10a J5J200184-3-SAMP Scr: 10/19/2005 10:49 AmtRec: 20ML.2X500P.2XLP.2X4LP #Containers: 7 Alpha: 2.32E-03 uCi/Sa Beta: -1.45E-03 uCi/Sa 9 HNE5H-1-AF 123.70g,in 123.70a J5J220210-1-SAMP 10/21/2005 12:18 AmtRec: 20ML.2X500P.2XLP.2X4LP #Containers: 7 Scr: Beta: 2.49E-06 uCi/Sa Alpha: 7.41E-07 uCi/Sa 10HNE53-1-AA 125.90g,in 125.90g J5J220217-1-SAMP 10/21/2005 10:55 AmtRec: 20ML,500P #Containers: 2 Scr: Alpha: 2.79E-08 uCi/Sa Beta: 9.55E-08 uCi/Sa 11 HNH1P-1-ΔF 127.40g,in 127.40g J5J250137-1-SAMP 10/24/2005 10:27 AmtRec: 20ML,2X500P,2XLP,2X4LP #Containers: 7 Scr: Alpha: 1.44E-06 uCi/Sa Beta: 2.62E-06 uCi/Sa 12HNH1V-1-AF 124.80g,in 124.80a J5J250137-2-SAMP 10/24/2005 08:00 AmtRec: 20ML,2X500P,2XLP,2X4LP #Containers: 7 Scr: Alpha: 2.08E-06 uCi/Sa Beta: -1.05E-06 uCi/Sa 13HNH1W-1-AF 126.70q,in 126.70q J5J250137-3-SAMP AmtRec: 20ML,2X500P,2XLP,2X4LP #Containers: 7 10/24/2005 12:04 Scr: Alpha: 1.92E-07 uCi/Sa Beta: 3.93E-07 uCi/Sa 14HNM7J-1-AA-B 128.20g,in 128.20a J5J260000-559-BLK 10/19/2005 12:56 AmtRec: #Containers: 1 Scr: Alpha: Beta: WO Cnt: 14 STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 2 ISV - Insufficient Volume for Analysis Prep\_SamplePrep v4.8.14 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Richland Wa.

11/30/2005 1:0	06:40 PM			S	ample Prepa	ration/Ana	ılysis		Bal	lance le	d:1120482733	
					p/SepRC5065					Pipet	#:	
					ium-99 by Liquid	Scint				-		
Report Due: 1	12/08/2005			5I CLIENT:	HANFORD				Sep1 DT/	Tm Tec	h:	
Batch: 52995 SEQ Batch, Test		р	Ci/L	· · · · · · · · · · · · · · · · · · ·	4.77				Sep2 DT/	Tm Tec	h:	
									Pi	rep Tec	h: ,GiroirB	
Work Order, Lot	' 11	Tota		Initial Aliquot	Adj Aliq Amt	QC Tracer	Count	Detector	Count On		CR Analyst,	Comments:
Sample Date	/Unit	Acidifie		Amt/Unit	(Un-Acidified)	Prep Date	Time Min	ld	(24hr) Circ	cle	Init/Date	
15HNM7J-1-AC-C				126.10g,in	126.10g	TCSE1793						
J5J260000-559-L					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	07/18/05,pd					~~~~~~	
10/19/2005 12:56			AmtRec:	#Co	ntainers: 1			Sc	er: /	Alpha:		Beta:
16HNM7J-1-AD-BI	V								<u> </u>			3
J5J260000-559-II	3LK											
		**			~~~~						# + +	
10/19/2005 12:56			AmtRec:	#Co	ntainers: 1			Sc	or: /	Alpha:		Beta:
17HNM7J-1-AE-BI	V	Transferred Contract	, i dagalaisem i Siisiaa								30 31 11 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	
J5J260000-559-II	BLK											
		***************		~~~~~~~~~~~~~~~~~~				·			****	
10/19/2005 12:56			AmtRec	#Co	ntainers: 1	W		So	or: A	Alpha:		Beta:
Comments:												
Myselec												
All Clients fo 384868, Pa	or Batch: acific Northwe	st National	Labortor	ies Pacif	ic Northwest Na	ational Lab,	ss , 57671					
HM6AF1AF-SAMP Tc-99	Constituent L RDL:15	ist: pCi/L	LCL:70	UCL:130	RPD:20							
HM6CR1AH-MS:	RDL:15	рст/п	LCL:/U	OCT:130	RPD:20							
HNM7J1AA-BLK:												
Tc-99	RDL:15	pCi/L	LCL:	UCL:	RPD:							
HNM7J1AC-LCS: Tc-99	RDL:15	pCi/L	LCL:70	UCL:130	RPD:20							
HNM7J1AD-IBLK	:											
Tc-99 HNM7J1AE-IBLK	RDL:15	pCi/L	LCL:	UCL:	RPD:							

Uncert Level (#s).: 2 Decay to SaDt: Y

RDL:15

HM6AF1AF-SAMP Calc Info:

Tc-99

STL Richland

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

UCL:

Blk Subt.: N

RPD:

Sci.Not.: Y

Page 3

ODRs: B

WO Cnt: 17

Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

LCL:

pCi/L

ISV - Insufficient Volume for Analysis

Prep\_SamplePrep v4.8.14

12/19/2005 3:25:06 PM

# ICOC Fraction Transfer/Status Report ByDate: 12/19/2004, 12/24/2005, Batch: '5299559', User: \*ALL Order By DateTimeAccepting

Batch Work Ord	CurStatus		Accepting		Comments
5299559					
4 <i>C</i> <b>C</b>	CalcC	GiroirB	11/22/2005 7:35	5:20	
SC		wagarr	IsBatched	10/26/2005 4:15:29 PM	ICOC_RADCALC v4.8.15
SC	٠	GiroirB	InPrep	11/22/2005 7:35:20 AM	RICH-RC-5016 REVISION 5
SC		GiroirB	Prep1C	11/30/2005 1:09:11 PM	RICH-RC-5016 REVISION 5
SC		RiceL	Sep1C	12/16/2005 12:27:46 PM	RICHRC5065 REVISION 5
SC		BlackCL	InCnt1	12/16/2005 2:21:15 PM	RICH-RD-0001 REVISION 3
SC		StringerR	CalcC	12/18/2005 2:14:43 PM	RICH-RD-0001 REVISION 3
4 <i>C</i>		GiroirB	11/30/2005 1:09	9:11	
4 <i>C</i>		RiceL	12/16/2005 12:2	27:46	
4C		BlackCL	12/16/2005 2:21	1:15	
4 <i>C</i>		StringerR	12/18/2005 2:14	4:43	

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

Grp Rec Cnt:5 ICOCFractions v4.8.15

0/26/2005 4:14:31 PN 84868, Pacific Northwo acific Northwest Nation	est National Labortorie	S6 Trit	Prp/SepRC5007 ium by Liquid Sc	reparation/A	nalysis	And Annual Processing Street, and Annual Processing Street, and Annual Processing Street, and Annual Processing		Balance Id: Pipet #:		
eport Due: 12/08/20	05 WOUT	79 51 CLI	ENT: HANFORD				Sep1 D	T/Tm Tech:		
Batch: 5299563 W EQ Batch, Test: None	VATER pC	SI/L	PN	I, Quote: SS ,	57671		Sep2 D	T/Tm Tech:		
EQ Baton, Test. None			1 1 2 1					Prep Tech:		
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   (24hr) Circ		CR Analyst, Init/Date		Comments:
HM6AF-1-AA										
5J200181-1-SAMP										
0/19/2005 10:17		AmtRec: 20ML,2X500	,2XLP,2X4LP #Contai	ners: 7		Scr:	Alpha: -2.25	5E-03 uCi/Sa	Beta: 1	.05E-03 uCi/Sa
HM6AQ-1-AA										
5J200181-2-SAMP 		AmtRec: 20ML,2X500.	,2XLP,2X4LP #Contai	ners: 7		Scr:	Alpha: -9.69	 ЭЕ-04 uCi/Sa	 Beta: -1	.45E-03 uCi/Sa
HM6AX-1-AA			, , , , , , , , , , , , , , , , , , , ,							
5J200181-3-SAMP										
0/19/2005 11:55	NAME OF THE PROPERTY OF THE PR	AmtRec: 20ML,2X500	,2XLP,2X4LP #Contain	ners: 7		Scr:	Alpha: -2.49	9E-03 uCi/Sa	Beta: 3	.94E-04 uCi/Sa
HM6CN-1-AA										
5J200184-1-SAMP	FS									
0/19/2005 12:56		AmtRec: 20ML,2X500	P,2XLP,2X4LP #Conta	iners: 7		Scr:	Alpha: -2.6	IE-03 uCi/Sa	Beta: 1	.32E-03 uCi/Sa
HM6CR-1-AA										
5J200184-2-SAMP     [         [		·				*****************				
0/19/2005 11:49		AmtRec: 20ML,2X500	P,2XLP,2X4LP #Conta	iners: 7		Scr:	Alpha: 1.03	E-03 uCi/Sa	Beta: -1	.32E-03 uCi/Sa
HM6CV-1-AA		and the second s								
5J200184-3-SAMP										• • • • • • • • • • • • • • • • • • •
<b></b>	COMMENT OF THE PROPERTY OF T	AmtRec: 20ML,2X500l	P,2XLP,2X4LP #Conta	iners: 7		Scr:	Alpha: 2.32	E-03 uCi/Sa	Beta: -1	.45E-03 uCi/Sa
HM93M-1-AA										
5J210189-1-SAMP	1 m (m M) 2									
0/20/2005 10:11		AmtRec: 20ML,LP	#Containers: 2			Scr:	Alpha: 9.00	E-05 uCi/Sa	Beta: 2	.86E-04 uCi/Sa
•	n - Initial Amt, fi - Final d - Prep Dt, r - Reference		, · · · · ·	•	ISV -	Insufficient Volum	e for Analy	sis	V	VO Cnt: <b>7</b> ICOC v4.8

0/26/2005 4:14:32	PM		Sample Pr	eparation/A	nalysis		Balance Id:				
84868, Pacific Nort Pacific Northwest Na			3 Prp/SepRC5007 tium by Liquid Sci	int			Pipet #:				
Report Due: 12/08	/2005		IENT: HANFORD				Sep1 DT/Tm Tech:				
Batch: 5299563	WATER	pCi/L	PM	, Quote: SS , 5	7671	· · · · · · · · · · · · · · · · · · ·	Sep2 DT/Tm Tech:				
SEQ Batch, Test: None	<b>)</b>						Prep Tech:				
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   0 (24hr) Circl		Comme			
HM931-1-AA											
5J210189-2-SAMP											
0/20/2005 10:46	AMERICAN AND AND AND AND AND AND AND AND AND A	AmtRec: 20ML,LP	#Containers: 2			Scr:	Alpha: -1.84E-04 uCi/Sa	Beta: 2.14E-04 uCi/S			
HM935-1-AA		<u>,                                    </u>									
5J210189-3-SAMP											
0/20/2005 11:11	MACORAL MACORA MACORAL MACORAL MACORAL MACORAL MACORAL MACORAL MACORAL MACORAL	AmtRec: 20ML,LP	#Containers: 2			Scr:	Alpha: 2.64E-04 uCi/Sa	Beta: -3.10E-04 uCi/S			
HM936-1-AA											
5J210189-4-SAMP											
0/20/2005 12:31		AmtRec: 20ML,500P	2XLP,2X4LP #Contain	ers: 6		Scr:	Alpha: -2.29E-04 uCi/Sa	Beta: 5.02E-04 uCi/S			
HNE5H-1-AA											
J220210-1-SAMP											
0/21/2005 12:18		AmtRec: 20ML,2X50	OP,2XLP,2X4LP #Contai	ners: 7		Scr:	Alpha:	Beta:			
HNE57-1-AA											
J220217-2-SAMP	1							·			
0/21/2005 10:00	A CONTRACTOR OF THE CONTRACTOR	AmtRec: 20ML,4XLP	#Containers: 5		131/4	Scr:	Alpha:	Beta:			
HNE6F-1-AA											
J220219-1-SAMP	1 8 11 8 DEMA WIX										
0/21/2005 10:55	00 (1974)	AmtRec: 20ML,5XLP	#Containers: 6			Scr:	Alpha:	Beta:			
HNH1P-1-AA											
J250137-1-SAMP											
0/24/2005 10:27	1000000 1000000 1000000 1000000 1000000 1000000	AmtRec: 20ML,2X50	0P,2XLP,2X4LP #Contai	iners: 7		Scr:	Alpha:	Beta:			
STL Richland Ke	ey: In - Initial Amt,	fi - Final Amt, di - Diluted Am	t, s1 - Sep1, s2 - Sep	2 Page 2	ISV -	Insufficient Volum	e for Analysis	WO Cnt: 1			

### Sample Preparation/Analysis 10/26/2005 4:14:32 PM Balance Id: 384868. Pacific Northwest National Labortories . AR H-3 Prp/SepRC5007 Pipet #: Pacific Northwest National Lab S6 Tritium by Liquid Scint 5I CLIENT: HANFORD Sep1 DT/Tm Tech: Report Due: 12/08/2005 Batch: 5299563 WATER pCi/L PM, Quote: HC, 57671 Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: QC Tracer Count On I Off CR Analyst, Comments: Work Order, Lot, Total Initial Aliquot Count Detector (24hr) Circle Init/Date Amt/Unit Prep Date Time Min ld Sample DateTime Amt/Unit 15HNH1P-1-AJ-X J5J250137-1-DUP Scr: Beta: 10/24/2005 10:27 AmtRec: 20ML.2X500P.2XLP.2X4LP #Containers: 7 Alpha: 16HNH1V-1-AA J5J250137-2-SAMP Scr: Beta: Alpha: 10/24/2005 08:00 AmtRec: 20ML,2X500P,2XLP,2X4LP #Containers: 7 17HNH1W-1-AA J5J250137-3-SAMP Scr: Alpha: Beta: AmtRec: 20ML,2X500P,2XLP,2X4LP #Containers: 7 10/24/2005 12:04 18HNH16-1-AA J5J250143-1-SAMP Scr: Alpha: Beta: 10/24/2005 11:17 AmtRec: 20ML.8XLP #Containers: 9 19HNH18-1-AA J5J250145-1-SAMP Beta: Scr: Alpha: 10/24/2005 08:00 AmtRec: 20ML,500P,2XLP #Containers: 4 20HNH2C-1-AA J5J250145-2-SAMP Beta: Scr: 10/24/2005 13:51 AmtRec: 20ML,500P,2XLP #Containers: 4 Alpha: 21HNM70-1-AA-B J5J260000-563-BLK Beta: AmtRec: #Containers: 1 Scr: Alpha: 10/24/2005 10:27 WO Cnt: 21 Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 ISV - Insufficient Volume for Analysis STL Richland Page 3

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Richland Wa.

ICOC v4.8.15

0/26/2005 4:14:33	0/26/2005 4:14:33 PM		I-3 Prp/SepRC5007	eparation/A	nalysis		Balance Id: Pipet #:	
Report Due: 12/08/2	2005		Tritium by Liquid Sc CLIENT: HANFORD	int		Se	p1 DT/Tm Tech:	,
Batch: 5299563 SEQ Batch, Test: None		pCi/L				Se	p2 DT/Tm Tech:	
DEQ Daton, rest. None			1 1 2 3				Prep Tech:	
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
2HNM70-1-AC-C	The second secon							Service - Servic
5J260000-563-LCS								
0/24/2005 10:27		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
3HNM70-1-AD-BX								
5J260000-563-MBLK								
PROPERTY OF THE PROPERTY OF T	MINISTER DE LA COMPANION DE LA							~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
0/24/2005 10:27		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
4HNM70-1-AE-CM								
5J260000-563-MLCS								
0/24/2005 10:27		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
5HNM70-1-AF-BN								
5J260000-563-IBLK								
0/24/2005 10:27	ESTATION OF THE PROPERTY OF TH	AmtRec:	#Containers: 1		A. C. (A. V.)	Scr:	Alpha:	Beta:
6HNM70-1-AG-BN		7 ma too.	, oomanoo. I					
5J260000-563-IBLK								
Management of the control of the con	ESCAPE A				~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			
0/24/2005 10:27	93 1 64 65 316	AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
7HNM70-1-AH-BN								
5J260000-563-IBLK	3 IT IT B B WIS							
10/24/2005 10:27	NEEDSCORE   1	AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
BHNM70-1-AJ-BN								
5J260000-563-IBLK								
0/24/2005 10:27	MANAGEMENT STREET, STR	AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
***************************************				,		<u> </u>		
					and the state of t			
		i - Final Amt, di - Diluted A eference Dt, ec-Enrichmer			ISV -	Insufficient Volume for A	Analysis	WO Cnt: <b>28</b> ICOC v4.8.

10/26/2005 4:14:34 P	PM		Sample Pr	eparation/A	nalysis		Balance Id:			
		S6 Trit	Prp/SepRC5007 ium by Liquid Sc	int		Pipet #:				
Report Due: 12/08/2	005		ENT: HANFORD			Sep1	DT/Tm Tech:			
Batch: 5299563 SEQ Batch, Test: None		pCi/L				Sep2	DT/Tm Tech:			
old batch, rest. None							Prep Tech:			
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:		
Comments:				,						

	s for Batch: , Pacific Northwes	t National	Labortories	Pacific	Northwest National I	ab, SS , 57671	
M6AF1AA-S	AMP Constituent Li	st:				William Control of the Control of th	
н-3	RDL:400	pCi/L	LCL:70	UCL:130	RPD:20		
HNM701AA-BI		<b>2</b>					
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:		
HNM701AC-LO	cs:	_					
H-3	RDL:400	pCi/L	LCL:70	UCL:130	RPD:20		
HNM701AD-MI	BLK:						
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:		
HNM701AE-MI	LCS:						
H-3	RDL:400	pCi/L	LCL:70	UCL:130	RPD:20		
HNM701AF-II	BLK:						
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:		
HNM701AG-II	BLK:						
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:		
HNM701AH-II							
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:		
INM701AJ-II							
н-3	RDL:400	pCi/L	LCL:	UCL:	RPD:		
HM6AF1AA-S	AMP Calc Info:						
Uncert	t Level (#s).: 2	Decay to	SaDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B	
HNM701AA-BI	LK:						
Uncert	t Level (#s).: 2	Decay to	SaDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B	
HNM701AC-L	CS:						
Uncert	t Level (#s).: 2	Decay to	SaDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B	
HNM701AD-MI							
	t Level (#s).: 2	Decay to	SaDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B	
INM701AE-MI							
	t Level (#s).: 2	Decay to	SaDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B	
INM701AF-II					_		
	t Level (#s).: 2	Decay to	SaDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B	
INM701AG-II							
Uncert	t Level (#s).: 2	Decay to	saDt: Y	Blk Subt.:	N Sci.Not.: Y	ODRs: B	

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Richland Wa.

ICOC v4.8.15

10/26/2005 4:14:3	84 PM		Sample Preparation/Analysis					- Wall	Balance Id:		
				AR H-3 Prp/Sep			_		Pipet #		
				S6 Tritium by L							
Report Due: 12/0	8/2005			5I CLIENT: HA	NFORD				Sep1 DT/Tm Tech:		
Batch: 5299563 SEQ Batch, Test: No	ne		pCi/L					S	Sep2 DT/Tm Tech:		
									Prep Tech		
Work Order, Lot, Sample DateTime		Total mt/Unit	Initial Alic Amt/Un		racer	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Ar Init/	nalyst, Date	Comments:
HNM701AH-IBLK: Uncert Level	(#s).: 2	2 Decay	to SaDt: Y	Blk Subt.:	N Sci.N	Not.: Y	ODRs: B				
HNM701AJ-IBLK: Uncert Level	. (#s).: 2	2 Decay	to SaDt: Y	Blk Subt.:	N Sci.N	Not.: Y	ODRs: B				
						Appr	oved By			Date:	.]
											J
STL Richland	Key: In - Initi	ial Amt, fi - F	Final Amt, di - Di	luted Amt, s1 - Sep1	, s2 - Sep2	Page 6	ISV -	- Insufficient Volume fo	or Analysis		WO Cnt: 28
Richland Wa.				chment Cell, ct-Coc		=			÷	•	ICOC v4.8.15

Richland Wa.

12/13/2005 2:44:21 PM

### ICOC Fraction Transfer/Status Report ByDate: 12/13/2004, 12/18/2005, Batch: '5299563', User: \*ALL Order By DateTimeAccepting

				Comments
CalcC	LEGLERM	12/9/2005 3:06:	:14 PM	
	wagarr	IsBatched	10/26/2005 4:15:29 PM	ICOC_RADCALC v4.8.15
	LEGLERM	InSep1	12/9/2005 3:06:14 PM	RICH-RC-5007 REVISION 6
	LEGLERM	Sep1C	12/9/2005 9:15:22 PM	RICH-RC-5007 REVISION 6
	BlackCL	CalcC	12/13/2005 9:09:25 AM	RICH-RD-0001 REVISION 3
	LEGLERM	12/9/2005 9:15:	22 PM	
	BlackCL	12/13/2005 9:09	9:25	
	CalcC	wagarr LEGLERM LEGLERM BlackCL LEGLERM	wagarr IsBatched LEGLERM InSep1 LEGLERM Sep1C BlackCL CalcC LEGLERM 12/9/2005 9:15	wagarr       IsBatched       10/26/2005 4:15:29 PM         LEGLERM       InSep1       12/9/2005 3:06:14 PM         LEGLERM       Sep1C       12/9/2005 9:15:22 PM         BlackCL       CalcC       12/13/2005 9:09:25 AM         LEGLERM       12/9/2005 9:15:22 PM

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

Grp Rec Cnt: 3 ICOCFractions v4.8.15

### 12/8/2005 11:08:42 AM Sample Preparation/Analysis Balance Id:1120482733 384868. Pacific Northwest National Labortories . DH UNat Laser PrpRC5015 Pipet #: \_\_\_ Pacific Northwest National Lab SS Total Uranium by KPA Sep1 DT/Tm Tech: 5I CLIENT: HANFORD Report Due: 12/08/2005 Batch: 5299557 PM. Quote: SS . 57671 WATER uq/L Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: GiroirB QC Tracer Count On I Off CR Analyst. Work Order, Lot. Total Initial Aliquot Count Detector Comments: Amt/Unit Amt/Unit Prep Date Time Min ld (24hr) Circle Init/Date Sample DateTime (O.00, 23.40g,in 1 HM6AF-1-AG J5J200181-1-SAMP 10/19/2005 10:17 AmtRec: 20ML 2X500 2XLP.2X4LP #Containers: 7 Alpha: -2.25E-03 uCi/Sa Beta: 1.05E-03 uCi/Sa 2 HM6AF-2-AG J5J200181-1-SAMP Beta: 1.05E-03 uCi/Sa 10/19/2005 10:17 AmtRec: 20ML.2X500.2XLP.2X4LP #Containers: 7 Scr: Alpha: -2.25E-03 uCi/Sa 3 HM6AQ-1-AG 24.50g,in J5J200181-2-SAMP AmtRec: 20ML,2X500,2XLP,2X4LP #Containers: 7 Scr: Alpha: -9.69E-04 uCi/Sa Beta: -1.45E-03 uCi/Sa 10/19/2005 08:15 4 HM6AQ-2-AG J5J200181-2-SAMP AmtRec: 20ML,2X500,2XLP,2X4LP #Containers: 7 Scr: Alpha: -9.69E-04 uCi/Sa Beta: -1.45E-03 uCi/Sa 10/19/2005 08:15 5 HM6AX-1-AG 25.40g,in J5J200181-3-SAMP Scr: Alpha: -2.49E-03 uCi/Sa Beta: 3.94E-04 uCi/Sa 10/19/2005 11:55 AmtRec: 20ML.2X500.2XLP.2X4LP #Containers: 7 6 HM6AX-2-AG J5J200181-3-SAMP 10/19/2005 11:55 AmtRec: 20ML.2X500.2XLP.2X4LP #Containers: 7 Scr: Alpha: -2.49E-03 uCi/Sa Beta: 3.94E-04 uCi/Sa 7 HM6CN-1-AG 23.40g,in J5J200184-1-SAMP Alpha: -2.61E-03 uCi/Sa Beta: 1.32E-03 uCi/Sa 10/19/2005 12:56 AmtRec: 20ML.2X500P.2XLP.2X4LP #Containers: 7 Scr: WO Cnt: 7 ISV - Insufficient Volume for Analysis Page 1

STL Richland Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ICOC v4.8.16

12/8/2005 11:08:42 AM		Sampl	e Prepa	ration/A	nalysis			Balance Id:		
384868, Pacific Northwest National Labortori		_Laser Prp						Pipet #:		
Pacific Northwest National Lab		Uranium b	•				01	•		
Report Due: 12/08/2005	51 CLIE	NT: HANFO	ORD				Sepi	DT/Tm Tech:		
Batch: 5299557 WATER uc SEQ Batch, Test: None	g/L		PM, Qu	ote: SS , 5	7671		Sep2	DT/Tm Tech:		
								Prep Tech:		
Work Order, Lot, Total Sample DateTime Amt/Unit	Initial Aliquot Amt/Unit	QC Trace Prep Dat		Count ime Min	Detector Id	Count On   (24hr) Circ		CR Analyst, Init/Date		Comments:
8 HM6CN-2-AG										
J5J200184-1- <b>SAMP</b>										
				**************************************						
10/19/2005 12:56	AmtRec: 20ML,2X500P	2XLP,2X4LP	#Containers: 7			Scr:	Alpha: -2.	61E-03 uCi/Sa	Beta: 1.	32E-03 uCi/Sa
9 HM6CR-1-AG	24.20g,in									
J5J200184-2- <b>SAMP</b>										
10/19/2005 11:49	AmtRec: 20ML,2X500P	2XLP,2X4LP	#Containers: 7		·	Scr:	Alpha: 1.	03E-03 u <b>Ci/Sa</b>	Beta: -1	.32E-03 uCi/Sa
10HM6CR-2-AG										
J5J200184-2- <b>SAMP</b>										
	~~~~~~	******								
10/19/2005 11:49	AmtRec: 20ML,2X500P	2XLP,2X4LP	#Containers: 7			Scr:	Alpha: 1.	03E-03 u <b>Ci/Sa</b>	Beta: -1	.32E-03 uCi/Sa
11 HM6CV-1-AG	26.00g,in									
J5J200184-3-SAMP										
				~~~~**********************************						,
10/19/2005 10:49	AmtRec: 20ML,2X500P	2XLP,2X4LP	#Containers: 7			Scr:	Alpha: 2.	32E-03 uCi/Sa	Beta: -1	.45E-03 uCi/Sa
12HM6CV-2-AG										
J5J200184-3-SAMP										
								205 20 202		
10/19/2005 10:49	AmtRec: 20ML,2X500P	2XLP,2X4LP	#Containers: /			Scr:	Alpha: 2.	32E-03 uCi/Sa	Beta: -1	.45E-03 uCi/Sa
13 HNE5H-1-AG	25.20g,in									
J5J220210-1-SAMP 		***								
10/21/2005 12:18	AmtRec: 20ML,2X500P	2XLP.2X4LP	#Containers: 7	,		Scr:	Alpha: 7.	41E-07 uCi/Sa	Beta: 2.	49E-06 uCi/Sa
14HNE5H-1-AH-S	26.50g,in	UNSF2779								
J5J220210-1-MS	20.009,111	11/29/05,pd								
		03/22/05,r	~							
10/21/2005 12:18	AmtRec: 20ML,2X500P	2XLP,2X4LP	#Containers: 7	•		Scr:	Alpha: 7.	41E-07 uCi/Sa	Beta: 2.	49E-06 uCi/Sa
	A STATE OF THE STA					2. 194-19-19-19-19-19-19-19-19-19-19-19-19-19-		erite obblesse var en		
STL Richland Key: In - Initial Amt, fi - Fina	l Amt, di - Diluted Amt,	s1 - Sep1, s2	2 - Sep2	Page 2	ISV -	Insufficient Volun	ne for Ana	lysis	٧	VO Cnt: <b>14</b>
Richland Wa. pd - Prep Dt, r - Reference	ce Dt, ec-Enrichment Ce	II, ct-Cocktail	led Added							ICOC v4.8.16

2/8/2005 11:08:43 AM		Sample P	reparation/A	nalysis		Balance Id:	
384868, Pacific Northwest National La		at_Laser PrpRC5				Pipet #:	
Pacific Northwest National Lab		al Uranium by KF ENT: HANFORD	PA			Sep1 DT/Tm Tech:	
Report Due: 12/08/2005						•	
Batch: 5299557 WATER SEQ Batch, Test: None	ug/L	PΝ	I, Quote: HC ,	57671		Sep2 DT/Tm Tech:	
024 246., 1006 1.0.10						Prep Tech:	
Work Order, Lot, Sample DateTime Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   (24hr) Circ		
15 HNE5H-2-AG	1				11 /	jl	11
J5J220210-1-SAMP							
	AmtDoo: 20MI 2Y500	P,2XLP,2X4LP #Conta	pinore: 7		Scr:	Alpha: 7.41E-07 uCi/Sa	Beta: 2.49E-06 uCi/Sa
16HNE5H-2-AH-S	Aminec. 20ML,27000	17,27L1 ,274L1 #00H8	aniers. /		001.	Alpha. 1.41E-01 dol/0a	Deta. 2.40L 00 00%0a
J5J220210-1-MS							
		***************************************					
10/21/2005 12:18	AmtRec: 20ML,2X500	P,2XLP,2X4LP #Conta	ainers: 7		Scr:	Alpha: 7.41E-07 uCi/Sa	Beta: 2.49E-06 uCi/Sa
17HNH1P-1-AG	28.10g,in						
J5J250137-1-SAMP							
10/24/2005 10:27	AmtRec: 20ML,2X500	P,2XLP,2X4LP #Conta	ainers: 7		Scr:	Alpha: 1.44E-06 uCi/Sa	Beta: 2.62E-06 uCi/Sa
18HNH1P-1-AH-X	26.10g,in						
J5J250137-1-DUP							
10/24/2005 10:27	AmtRec: 20ML,2X500	P,2XLP,2X4LP #Cont	ainers: 7	***************************************	Scr:	Alpha: 1.44E-06 uCi/Sa	Beta: 2.62E-06 uCi/Sa
19HNH1P-2-AG							
J5J250137-1- <b>SAM</b> P							
40/04/0005 10:07	ApptDoor COMIL OVEO(	P.2XLP.2X4LP #Cont	oinara: 7		Scr:	Alpha: 1.44E-06 uCi/Sa	Beta: 2.62E-06 uCi/Sa
10/24/2005 10:27 20HNH1P-2-AH-X	AMILAEC. ZOWL,ZASOC	F,2ALF,2A4LF #COIII	differs. /	· · · · · · · · · · · · · · · · · · ·	301.	Alpha. 1.44L-00 u0//3a	Deta. 2.02E-00 00#0a
J5J250137-1-DUP							
10/24/2005 10:27	AmtRec: 20ML,2X500	P,2XLP,2X4LP #Cont	ainers: 7		Scr:	Alpha: 1.44E-06 uCi/Sa	Beta: 2.62E-06 uCi/Sa
21 HNH1V-1-AG	23.00g,in	2.000			3		
J5J250137-2-SAMP							·
10/24/2005 08:00	AmtRec: 20ML,2X500	P,2XLP,2X4LP #Cont	ainers: 7		Ser:	Alpha: 2.08E-06 uCi/Sa	Beta: -1.05E-06 uCi/Sa
		- Marie Co					
						ersegreen and the second secon	
	fi - Final Amt, di - Diluted Am Reference Dt, ec-Enrichment (			ISV	- Insufficient Volun	ne for Analysis	<b>WO Cnt: 21</b> ICOC v4

12/8/2005 11:08:44	AM		Sample P	reparation/A	nalysis		Balance Id:	
384868, Pacific North Pacific Northwest Nat			at_Laser PrpRC5				Pipet #:	
Report Due: 12/08/			al Uranium by KI ENT: HANFORD	A		:	Sep1 DT/Tm Tech:	
Batch: 5299557	WATER	ug/L		I, Quote: HC ,	57671		Sep2 DT/Tm Tech:	
SEQ Batch, Test: None		<b>3</b> ,		,,		•	•	
		1					Prep Tech:	
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	GR Analy Init/Dat	
22HNH1V-2-AG					•			
J5J250137-2-SAMP	7 St 1 1 S 1 S WIE							
10/24/2005 08:00		AmtDoo: 20ML 2VE00	DOVIDOVALD #Contr	sinora, 7		Ço A	lahar 0 00E 000:/0-	D-4 4 OFF 00 -000
23HNH1W-1-AG		25.00g,in	P,2XLP,2X4LP #Conta	iners, /	second White a second	Scr: A	lpha: 2.08E-06 uCi/Sa	Beta: -1.05E-06 uCi/Sa
J5J250137-3-SAMP		20.009,111						
TOTAL CONTRACTOR OF THE PROPERTY OF THE PROPER			***************************************	***************************************		~~~~	*****	
10/24/2005 12:04		AmtRec: 20ML,2X500	P,2XLP,2X4LP #Conta	niners: 7		Scr: A	lpha: 1.92E-07 uCi/Sa	Beta: 3.93E-07 uCi/Sa
24HNH1W-2-AG								
J5J250137-3-SAMP			***************************************			***************************************		**************************************
10/24/2005 12:04		AmtRec: 20ML,2X500	P,2XLP,2X4LP #Conta	ainers: 7		Scr: A	lpha: 1.92E-07 uCi/Sa	Beta: 3.93E-07 uCi/Sa
25HNM67-1-AA-B		25.50g,in					7000	
J5J260000-557-BLK	. II & i & i & ii Wia							
10/24/2005 10:27		AmtRec:	#Containare: 1			Scr:	Alpho	Doto:
26HNM67-1-AC-C		24,60g,in	#Containers: 1 UNSF2780		<u> </u>	301.	Alpha:	Beta:
J5J260000-557-LCS		<i>z.</i> 1.00g,iii	11/29/05,pd					
	20000000000000000000000000000000000000		03/22/05,r				***************************************	
10/24/2005 10:27		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
27HNM67-1-AD-C		22.70g,in	UNSC0934					
J5J260000-557-LCS		•	11/29/05,pd					
Marchen March Marc			09/17/0 <b>4</b> ,r			***	******************	
10/24/2005 10:27		AmtRec:	#Containers: 1			Sor:	Alpha:	Beta:
28HNM67-2-AA-B								The state of the s
J5J260000-557-BLK	1 t) 5 t 982 Bt9							
10/24/2005 10:27	2000000 200000000000000000000000000000	AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
	· ·	fi - Final Amt, di - Diluted Am		· ·	ISV -	Insufficient Volume fo	or Analysis	WO Cnt: <b>28</b> ICOC v4.8
Richland Wa.	pa - Prep Dt, r - F	Reference Dt, ec-Enrichment C	eii, ct-Cocktailed Ac	iaea				ICOC V4.8

12/8/2005 11:	08:45 AM			Sample Pi	reparation/A	\nalysis		Balance Id:	
				UNat_Laser PrpRC5 Total Uranium by KF				Pipet #:	
Report Due:	12/08/2005			CLIENT: HANFORD	T.		Se	p1 DT/Tm Tech:	
Batch: 52995		ι	ug/L	- Management			Se	p2 DT/Tm Tech:	
SEQ Batch, Test	II None			1 I # I				Prep Tech:	
Work Order, I Sample DateT			Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
29HNM67-2-AC-C	31			It .		H I		II	- 11
J5J260000-557-L									
10/24/2005 10:2	7		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
30HNM67-2-AD-C							<u> </u>		
J5J260000-557-L									
10/24/2005 10:2			AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
All Clients f 384868, P	HNH1P-SAMP Co HNH1W-SAMP "C _	mments Comments: A	Alpha aliq reduced a	educed as determined by standard by wt school of the schoo	due to dis-solid co				
HM6AF1AG-SAMP Uranium	Constituent Li	st: ug/L	LCL:	JCL: RPD:			-		PV-C
HNE5H1AH-MS:									
HNE5H2AH-MS:									
HNM671AA-BLK: Uranium HNM671AC-LCS:	RDL:1.44E-01	ug/L	LCL:	JCL: RPD:					
Uranium HNM671AD-LCS:	RDL:0.144343	ug/L	LCL:70	JCL:130 RPD:20					
Uranium	RDL:0.144343	ug/L	LCL:70	JCL:130 RPD:20					
STL Richland Richland Wa.	•			Amt, s1 - Sep1, s2 - Sep nt Cell, ct-Cocktailed Ac	_	ISV -	Insufficient Volume for	Analysis	WO Cnt: <b>30</b> ICOC v4.8.16

12/8/2005 11:08:45 AM
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### Sample Preparation/Analysis

Balance Id:

net #·			

DH UNat\_Laser PrpRC5015 SS Total Uranium by KPA 5I CLIENT: HANFORD

Report Due: 12/08/2005

ug/L

Sep1 DT/Tm Tech: Sep2 DT/Tm Tech:

Batch: 5299557 SEQ Batch, Test: None

Daten, rest. Non	•				March Company		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Prep Tech:	
Work Order, Lot, Sample DateTime	Tota Amt/U	51	Initial Aliqu Amt/Unit	15	C Tracer ep Date	Count Time Min	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:
HNM672AA-BLK:										.5.4
Uranium RDL: HNM672AC-LCS:	0.144343	ug/L	LCL:	UCL:	RPD:					
1	0.144343	ug/L	LCL:70	UCL:130	RPD:20					
HNM672AD-LCS:										
Uranium RDL:	0.144343	ug/L	LCL:70	UCL:130	RPD:20					
HM6AF1AG-SAMP Calc	: Info:									
Uncert Level	(#s).: 2	Decay to	SaDt: Y	Blk Subt.	: N S	ci.Not.: Y	ODRs: B			
HNE5H1AH-MS:										
Uncert Level	(#s).: 2	Decay to	SaDt: Y	Blk Subt.	: N S	ci.Not.: Y	ODRs: B			
HNE5H2AH-MS:										
Uncert Level	(#s).: 2	Decay to	SaDt: Y	Blk Subt.	: N S	ci.Not.: Y	ODRs: B			
HNM671AA-BLK:										
Uncert Level	(#s).: 2	Decay to	SaDt: Y	Blk Subt.	: N S	ci.Not.: Y	ODRs: B			
HNM671AC-LCS:	<i>("</i> ) 0									
Uncert Level	(#S).: 2	necay to	SaDt: Y	Blk Subt.	: N S	ci.Not.: Y	ODRs: B			
HNM671AD-LCS: Uncert Level	(##) . 2	Dogger to	SaDt: Y	Blk Subt.	- N C	ci.Not.: Y	ODRs: B			
HNM672AA-BLK:	(#S).: Z	Decay Co	) Sabt: 1	BIR SUDC.	: 14 5	CI.NOL.: Y	ODRS: B			
Uncert Level	(#s) · 2	Degay, to	SaDt: Y	Blk Subt.	. NT C	ci.Not.: Y	ODRs: B			
HNM672AC-LCS:	(#5) ** 2	Decay Co	J Babt. 1	DIA SUDC.	. N 5	CI.NOC I	ODKS: B			
Uncert Level	(#s) . + 2	Decay to	SaDt: Y	Blk Subt.	• N S	ci.Not.: Y	ODRs: B			
HNM672AD-LCS:		2004, 00			D					
Uncert Level	(#s).: 2	Decay to	SaDt: Y	Blk Subt.	: N S	ci.Not.: Y	ODRs: B			
	, ,				_		· · · · <del>-</del>			
						Annr	oved By		Date:	

12/9/2005 4:25:44 PM

## ICOC Fraction Transfer/Status Report ByDate: 12/9/2004, 12/14/2005, Batch: '5299557', User: \*ALL Order By DateTimeAccepting

Q Batch Wo	ork Ord CurSta	tus	Accepting		Comments
5299557					
AC	Cnt1C	GiroirB	11/22/2005 7:30	D:18	
SC		wagarr	IsBatched	10/26/2005 4:15:29 PM	ICOC_RADCALC v4.8.15
SC		GiroirB	InPrep	11/22/2005 7:30:18 AM	RICH-RC-5015 REVISION 4
SC		ScottM	InPrep2	12/2/2005 7:27:31 AM	RICH-RC-5015 REVISION 4
SC		ScottM	Prep2C	12/3/2005 9:57:49 AM	RICH-RC-5015 REVISION 4
SC		BarbosaH	Cnt1C	12/5/2005 2:29:29 PM	RICH-RC-5058 REVISION 6
SC		BarbosaH	Cnt1C	12/8/2005 4:58:07 PM	RICH-RC-5058 REVISION 6
4C		ScottM	12/2/2005 7:27	31	
4C		ScottM	12/3/2005 9:57:	49	
4 <i>C</i>		BarbosaH	12/5/2005 2:29:	29 PM	
AC		BarbosaH	12/8/2005 4:58	07 PM	

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

11/30/2005 11:39:3	0 AM		Sample Pr	eparation/A	nalvsis		Balance Id:	
Pacific Northwest Na		IZ CO	SAMPLE PREPA LIFORM BY METH	RATION PERFO	-	T INJECTION	Pipet #:	:
Report Due: 12/08	007	189 SICLI	ENT: HANFORD				Sep1 DT/Tm Tech:	
Batch: 5299632 SEQ Batch, Test: None	WATER		PM	l, Quote: SS ,	57671		Sep2 DT/Tm Tech:	
							Prep Tech:	
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On   (24hr) Cire		
1 HM936-1-AC								
J5J210189-4-SAMP	#     ###### #					·		
10/20/2005 12:31	monanee	AmtRec: 20ML,500P,2	XLP,2X4LP #Contain	ers: 6		Scr:	Alpha: -2.29E-04 uCi/Sa	Beta: 5.02E-04 uCi/Sa
2 HM936-1-AH-X								
J5J210189-4-DUP 						•=============		
10/20/2005 12:31		AmtRec: 20ML,500P,2	XLP,2X4LP #Contain	ers: 6		Scr:	Alpha: -2.29E-04 uCi/Sa	Beta: 5.02 <b>E-04 uCi/Sa</b>
3 HNNFA-1-AA-B								
J5J260000-632-BLK <b>-</b>		**************************************			***************************************	*****	*	<b>         </b>
10/24/2005 08:00		AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
4 HNNFA-1-AC-C								
J5J260000-632-LCS	#     #!   ## # #						·····	
10/24/2005 08:00	The state of the s	AmtRec:	#Containers: 1			Scr:	Alpha:	Beta:
Comments:							₹	
	•							
All Clients for Ba 384868, Pacifi	tch: c Northwest Nationa	al Labortories	Pacific Northwe:	st National La	b, SS , 5767	1		
HM9361AC-SAMP Cons	tituent List:		\				AR HANGE AND A STATE OF THE STA	
HNNFA1AA-BLK:								
HNNFA1AC-LCS:								
HM9361AC-SAMP Calc	Info:							
STL Richland Ke		nal Amt, di - Diluted Amt ence Dt, ec-Enrichment C	•	=	ISV -	Insufficient Volur	ne for Analysis	WO Cnt: 4 ICOC v4.8.16

11/30/2005 11:39:3	1 AM				Sample I	Preparati	on/Analy	sis		Balance Id:	<u> </u>
					SAMPLE PREF		ERFORMED	) / DIREC	T INJECTION	Pipet #:	
Report Due: 12/08	/2005				LIFORM BY ME IENT: HANFOR				Sep1	DT/Tm Tech:	
Batch: 5299632	<del></del>			,					Sep2	DT/Tm Tech:	
SEQ Batch, Test: None	9									Prep Tech:	
Work Order, Lot,	<u> </u>	Total	Initial Aliqu	ıot	QC Tracer	Count			Count On Off		
Sample DateTime		nt/Unit	Amt/Unit		Prep Date	Time M		etector Id	(24hr) Circle	CR Analyst, Init/Date	Comments:
Uncert Level	(#s).: 2	Decay	to SaDt: Y	Blk	Subt.: N	Sci.Not.:	Y ODRs:	: В			
Uncert Level	(#s).: 2	Decay	to SaDt: Y	Blk	Subt.: N	Sci.Not.:	Y ODRs:	: B			
Uncert Level	(#s).: 2	Decay	to SaDt: Y	Blk	Subt.: N	Sci.Not.:	Y ODRs:	: B			
						:	Approved By	7		Date:	
STL Richland Ke	v: In - Initia	al Amt, fi-Fi	nal Amt. di - Dilu	ted Amt	, s1 - Sep1, s2 - S	ep2 Page 2	2	ISV -	Insufficient Volume for Ana	lvsis	WO Cnt: 4

ICOC v4.8.16

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Richland Wa.

		Sample Pr	eparation/ <i>A</i>	nalvsis	- 1000000000000000000000000000000000000	Ba	lance Id:		
abortories ,	88 NO SAM	IPLE PREPAI	RATION PERF						
			IOD 9223			0 4 57	•		
4799	51 CLIENT					Sepi Di/	Im lech:		
		PM	, Quote: HC ,	57671		Sep2 DT/	Tm Tech:		
						P	rep Tech:		
		QC Tracer Prep Date	Count Time Min	Detector Id	Count On		CR Analyst, Init/Date		Comment
AmtRec: 20	ML,500P,2XLP	#Containers:	4		Sor:	Alpha: 2.21E-	07 uCi/Sa	Beta: 2	2.68E-07 uCi/Sa
					******				
AmtRec: 20	ML,500P,2XLP	#Containers:	4	- No. 1100	Scr:	Alpha: 6.43E-	07 uCi/Sa	Beta: 7	7.44E-07 uCi/Sa
AmtRec: 20	ML,500P,2XLP	#Containers:	4		Scr:	Alpha: 6.43E-	07 uCi/Sa	Beta: 7	7.44E-07 uCi/Sa
				***************************************					
A 1D					0	A1.1			D :
AmtRec:	#C	ontainers: 1			Scr:	Alpr	na:		Beta:
AmtRec:	#C	ontainers: 1			Sor:	Alpl	na:		Beta:
	s Paci	fic Northwes	st National La	ъь, нс , 5767	1				are and a second
tional Labortorie									
tional Labortorie	A SAME								A CONTRACTOR OF THE PROPERTY O
fi - Final Amt, di - Dili			2 Page 1		Insufficient Volun				WO Cnt: 5
	Initial Aliq Amt/Uni  AmtRec: 20  AmtRec: 20  AmtRec: 20	AmtRec: 20ML,500P,2XLP  AmtRec: 20ML,500P,2XLP  AmtRec: 20ML,500P,2XLP	AmtRec: 20ML,500P,2XLP #Containers:  AmtRec: 20ML,500P,2XLP #Containers:  AmtRec: 20ML,500P,2XLP #Containers:	AmtRec: 20ML,500P,2XLP #Containers: 4  AmtRec: 20ML,500P,2XLP #Containers: 4  AmtRec: #Containers: 1	AmtRec: 20ML,500P,2XLP #Containers: 4  AmtRec: #Containers: 1  AmtRec: #Containers: 1	AmtRec: 20ML,500P,2XLP #Containers: 4 Scr:  ### AmtRec: 20ML,500P,2XLP #Containers: 4 Scr:  ### AmtRec: 20ML,500P,2XLP #Containers: 4 Scr:	AmtRec: 20ML,500P,2XLP #Containers: 4 Scr: Alpha: 6.43E-  AmtRec: 20ML,500P,2XLP #Containers: 4 Scr: Alpha: 6.43E-  AmtRec: #Containers: 1 Scr: Alpha: 6.43E-	AmtRec: 20ML,500P,2XLP #Containers: 4 Scr: Alpha: 6.43E-07 uCt/Sa  AmtRec: 20ML,500P,2XLP #Containers: 4 Scr: Alpha: 6.43E-07 uCt/Sa  AmtRec: 20ML,500P,2XLP #Containers: 4 Scr: Alpha: 6.43E-07 uCt/Sa	AmtRec: 20ML,500P,2XLP #Containers: 4  AmtRec: 20ML,500P,2XLP #Containers: 4  AmtRec: 4Containers: 1  Sep1 DT/Tm Tech: Pripet #:

/30/2005 11:39:3	32 AM			Sample	Preparation	/Analysis	The second secon	Balance Id:			
				8 NO SAMPLE PR Z COLIFORM BY N		FORMED / DIREC	CT INJECTION	Pipet #:			
port Due: 12/08/	/2005			I CLIENT: HANFO			Sep1	DT/Tm Tech:			
tch: 5334372	_						Sep2	2 DT/Tm Tech:			
Q Batch, Test: None	е				######################################			Prep Tech:			
Work Order, Lot, Sample DateTime	Total Amt/Un	it	Initial Aliquo Amt/Unit		r Count	Detector Id	Count On   Off (24hr) Circle	CR Analyst, Init/Date	Comments:		
L21AA-BLK:		1				II		1	11		
L21AC-LCS:											
181AC-SAMP Calc	Info:										
Uncert Level L21AA-BLK:	(#s).: 2	Decay	to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B					
Uncert Level L21AC-LCS:	(#s).: 2	Decay	to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B					
Uncert Level	(#s).: 2	Decay	to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B					
					App	roved By		Date:			